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SOAP

NOVEMBER 1937

UNGERER PRODUCTS

...direct From all Countries

TO

You!

SOAPS
INSECTICIDES
DISINFECTANTS
CHEMICAL SPECIALTIES
SANITARY SUPPLIES
POLISHES
CLEANERS

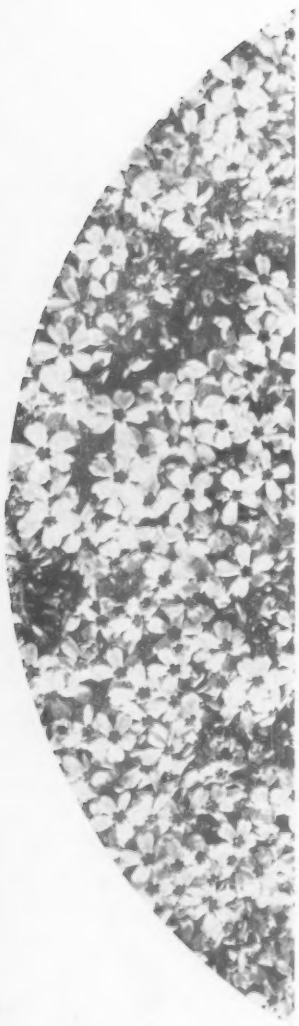
AN UNGERER product is interesting in its derivation. We secure direct from prime sources, in most cases, from producers we have known for decades. Lavender, Geranium, Ylang Ylang, etc., whatever your needs, this efficient method of ours necessarily works to your advantage. To confirm this fact we ask you to check with us when next you require quality materials for the perfumery of your soaps.

UNGERER & COMPANY

13-15 WEST 20TH STREET • NEW YORK

Philadelphia Chicago Boston St. Louis Los Angeles Toronto San Francisco

Soap Perfumes



ODOR is perhaps the most important factor in the successful merchandising of toilet soaps. Competition being what it is today, the up-to-the-minute soap manufacturer is insisting on the very best possible perfume available, at a price within reasonable limits.

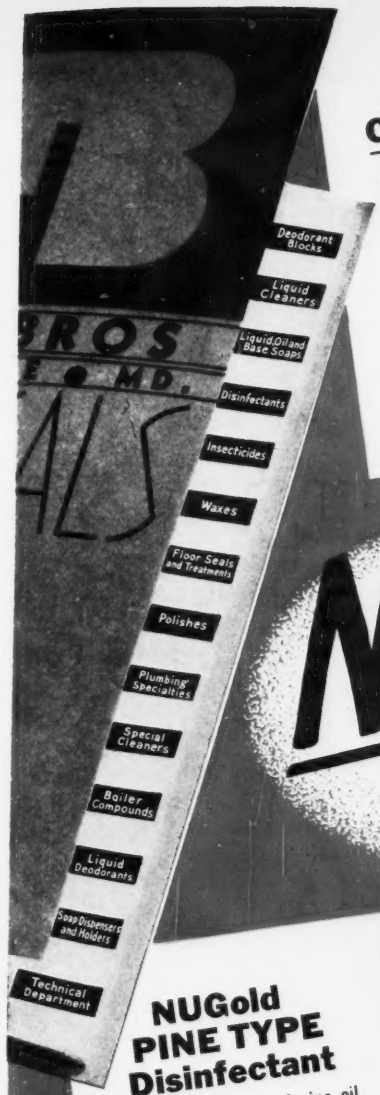
Our laboratories, based on the long experience of our principals Chuit Naef & Cie., Geneva, Switzerland, are turning out remarkably fine floral and bouquet odors for toilet soaps at surprisingly low figures.

Included in our most recent successful developments are GARDENIA, JASMIN, GERANIUM, LAVENDER, LILAC, FOUGERE, BOUVARDIA, MUGUET, ROSE, DAMASCENA, and numerous bouquet types.

Samples and Quotations on Request

Firmenich & Co., Inc.

135 FIFTH AVE., NEW YORK



DROP-BLOX COMBINATION

A special new combination deal now puts our famous Drop-Blox urinal deodorants on a basis that makes featuring them profitable.

ONLY PATENTED
DROP-BLOX
FIT THE
DROP-LOK Porcelain Deodorizing Urinal Strainers

MECHANICS' NEW LIQUID HAND SOAP

You're invited to this labor "party."

Mechanics, printers and fellows who mess into dirty dirt will certainly lend you a hand on this item.

NAME them and they're YOURS!

NUGold PINE TYPE Disinfectant

There are hundreds of pine oil disinfectants—but there's only one NUGold!

It's the new pine type disinfectant, with the color of pine—the mixing characteristics of pine, but a

SWEETER MILDER FRAGRANCE

all its own—and at a price that makes liking it doubly easy.

Coefficients: 1.5, 2, and 3

WINDOW CLEANER

The newest development in window cleaners! A newer, speedier window cleaning fluid which is packed in metal—used in metal sprayers—yet

GUARANTEED AGAINST CORRODING

High speed, no "breaks"! (crush-proof packaging!) For cleaning and polishing all flat glass, even in

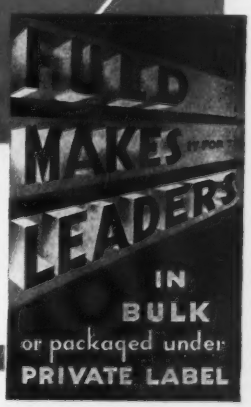
Sub-Freezing Temperatures

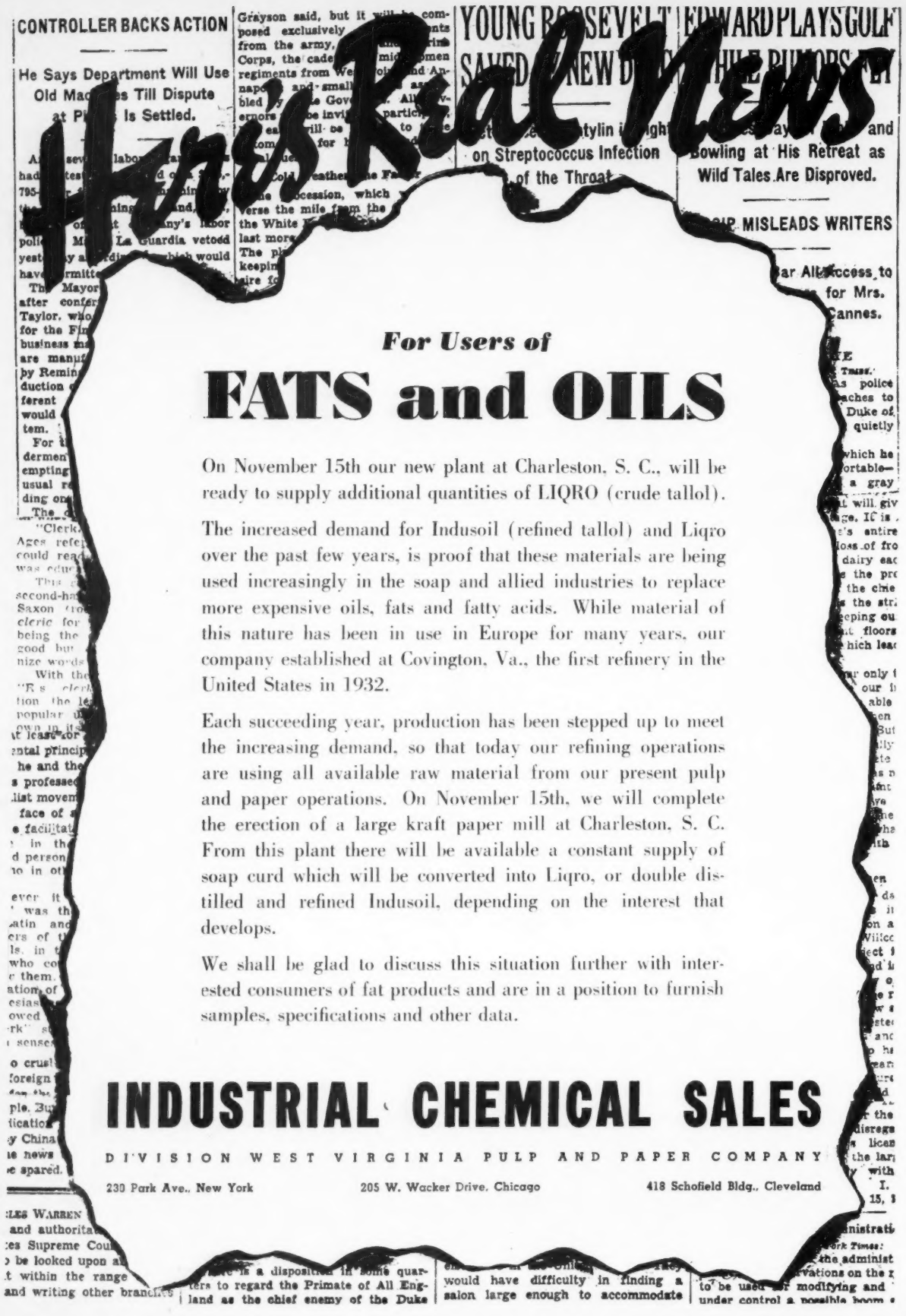
FULD BROS.

702-710 SOUTH WOLFE STREET

Manufacturers of Sanitary Chemicals
Exclusively for the Jobber

BALTIMORE MARYLAND

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He Says Department Will Use Old Mac es Till Dispute at Pl Is Settled.
Grayson said, but it
composed exclusively
from the army,
Corps, the cade
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YOUNG R SEVELT
SAVED NEW D
on Streptococcus Infection
of the Throat
EDWARD PLAYS GOLF
and
Bowling at His Retreat as
Wild Tales Are Disproved.
MISLEADS WRITERS
Here's Real News
For Users of
FATS and OILS
On November 15th our new plant at Charleston, S. C., will be ready to supply additional quantities of LIQRO (crude tallol).
The increased demand for Indusoil (refined tallol) and Liqro over the past few years, is proof that these materials are being used increasingly in the soap and allied industries to replace more expensive oils, fats and fatty acids. While material of this nature has been in use in Europe for many years, our company established at Covington, Va., the first refinery in the United States in 1932.
Each succeeding year, production has been stepped up to meet the increasing demand, so that today our refining operations are using all available raw material from our present pulp and paper operations. On November 15th, we will complete the erection of a large kraft paper mill at Charleston, S. C. From this plant there will be available a constant supply of soap curd which will be converted into Liqro, or double distilled and refined Indusoil, depending on the interest that develops.
We shall be glad to discuss this situation further with interested consumers of fat products and are in a position to furnish samples, specifications and other data.
INDUSTRIAL CHEMICAL SALES
DIVISION WEST VIRGINIA PULP AND PAPER COMPANY
230 Park Ave., New York
205 W. Wacker Drive, Chicago
418 Schofield Bldg., Cleveland
would have difficulty in finding a salon large enough to accommodate

SOAP

Volume XIII
Number 11

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November, 1937

MEMBER AUDIT BUREAU OF CIRCULATIONS

SANITARY Products Section, which is included as a department of every issue of SOAP, begins on page 75. Production Section begins on page 61.

Published monthly by

MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET NEW YORK, N. Y.

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Javonella

PERFECT FOR PERFUMING

★ Laundry Soaps ★ Washing Powders
★ Liquid Cleansers ★ Polishes, etc.

Javonella imparts a fresh, clean and lasting fragrance

3 GOOD REASONS WHY IT PAYS TO USE

Javonella . . .

- It's a manufactured article . . . free from the price fluctuations of natural essential oils such as Citronella, Sassafras, etc.
- Its high quality never varies, enabling you to manufacture uniformly dependable products.
- Always lower in cost than the natural oils, its use results in production economies and higher profits without lowering quality standards.

SEND FOR YOUR SAMPLE AT ONCE

Felton CHEMICAL COMPANY, Inc.

603 Johnson Avenue, Brooklyn, N. Y.

Manufacturers of Aromatic Chemicals, Natural Derivatives, Perfume Oils, Artificial Flower and Flavor Oils
Executive Offices and Factory: 603 Johnson Ave., Brooklyn, N. Y. • Boston, Mass., 80 Boylston Street • Philadelphia, Pa., 200 South 12th Street • Sandusky, Ohio, 1408 West Market Street • Chicago, Ill., 1200 North Ashland Avenue • St. Louis, Mo., 245 Union Boulevard • New Orleans, La., Balter Building • San Francisco, Calif., 512 Washington Street • Los Angeles, Calif., 515 South Fairfax Avenue

★

Skin Vitamin F

Makes Good Soaps Better for the Skin

One of the fortunate properties of vitamin F is that it is effective in minute quantities. In considering vitamin F for soaps, therefore, attention can be centered on its benefits rather than upon its cost. Because it returns to the skin one of the essential lipoids which are continually washed away, because of its regenerative effect and skin healthifying values, vitamin F is a logical and beneficial ingredient for any soap formula. Current tendencies to demand cosmetic properties of toilet soaps urges more than ever its inclusion. Vitamin F, now identified as one factor responsible for the medicinal properties of linseed oil in official green soap (Sapo Mollis)—is the vitamin most closely associated with skin health, skin softness, and skin youth. Vitamin F belongs in soap. Use it and profit from offering a soap of real skin conditioning value.

ARCHER-DANIELS-MIDLAND COMPANY Specialties Division
675 ROANOKE BUILDING • MINNEAPOLIS, MINNESOTA

Producers of stabilized and biologically assayed wheat germ oil—vitamin E.

MAIL COUPON

ARCHER-DANIELS-MIDLAND CO., Specialties Division
675 Roanoke Building, Minneapolis, Minn.

Tell us more about the properties of skin-health vitamin F and its application to soaps. We are interested in knowing how little the addition of vitamin F to our product would cost.

Individual .....

Firm .....

Address .....

Anchor Closures

PUNCTURE, THEN LIFT OFF WITH ANY HOOK OPENER
TO OPEN USE ANCHOR OPENER
OR ANY HOOK BOTTLE OPENER
TO REMOVE LIFT OPENER
TO CLOSE

TO LOOK ON CAPS as merely another of the many supply items of a business is only part of the story. Buy your closures for the aid they can give to your merchandising operations. Put the emphasis on the *service* a cap can give. For in reality you are buying product protection, consumer satisfaction, attractive appearance rather than merely caps. In order to assure that Anchor customers get the last ounce of service out of their closures, we make all sorts of kinds and styles . . . so that the one you select will be that one which is most perfectly suited to your merchandising policies, to your product and to your packages. For that reason we say "Come to Anchor for your closure requirements—for there you are assured of an honest, unbiased recommendation." ANCHOR CAP & CLOSURE CORPORATION, Long Island City, New York; Toronto, Canada. *Branch offices in all principal cities.*

* *Capstan Glass* *

THE evidence of craftsmanship is in little things. A $75 suit of clothes may be from the same bolt of cloth as ordinary "store clothes" but the tailored suit does real justice to the wearer. It fits perfectly, not just tolerably well; every detail is nicely finished; it's a suit you are proud to wear. ¶ So with Capstan glass containers. They are finely made, not just good enough to get by. Capstan's intent is to have every container that goes out of our plant do full justice to the product it is to hold. To have the greatest effectiveness it must suit the product perfectly, must present an attractive appearance, must be practical for packer or manufacturer. The job of Capstan representatives is not only to sell quality glassware but to keep these points uppermost in mind. CAPSTAN GLASS COMPANY Connellsville, Pa. *Associate Company*: SALEM GLASS WORKS. Branch offices in all principal cities.

CAUSTIC SODA

Liquid . . . Solid . . . Flake

CAUSTIC POTASH

Liquid

ARBON TETRACHLORIDE

99.995%

"EARLIEST PRODUCTION IN THIS COUNTRY"

TRI-SODIUM PHOSPHATE
DI-SODIUM PHOSPHATE

ALSO MIXED DETERGENTS COMPOUNDED
TO MEET USERS' OWN SPECIFICATIONS

TETRA SODIUM PYRO PHOSPHATE

(Neutral Pyro)

AN OPPORTUNITY TO SUBMIT SAMPLES AND QUOTATIONS IS SOLICITED

WARNER CHEMICAL COMPANY

Pioneer Producers since 1886

STANDARD WARNER CHEMICALS

CHRYSLER BUILDING NEW YORK CITY
155 EAST SUPERIOR STREET, CHICAGO
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DIVISION OF WESTVACO CHLORINE PRODUCT

REFRESHING
Lavender
Pine
Lilac
Rose
Jasmin
Odors of Lasting Quality in Soaps and Cosmetics
Agfa
AROMATICS DIVISION
GENERAL DRUG COMPANY
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The velvety smoothness of a delicate rose petal

The pure beauty of its fresh clean odor

The complete freedom from harshness or by-odors

These characteristics are all at their best in

PHENYL ETHYL ALCOHOL COEUR

a product of

VAN AMERINGEN - HAEBLER, INC.

By actual comparison, both for odor and analytically, PHENYL ETHYL ALCOHOL COEUR will prove its superiority in any field.

In odor, you will find it smooth and clean, free from any unpleasant chemical sharpness.

In analysis, PHENYL ETHYL ALCOHOL COEUR shows this impressive pedigree.

Specific Gravity at 15° C...	1.0230
Refractive index at 20° C...	1.5327
Ester Content	0.0
Chlorine Content	0.0
Total alcohol percentage...	99.5 to 100%
Solubility in water.....	1 in 50 parts
Solubility in 50% alcohol...	1 in 1.5 parts

If you use phenyl ethyl alcohol, ask us for a sample and discover for yourself the difference.

PHENYL ETHYL ALCOHOL COEUR is priced at:
$2.75 in one pound lots.
2.40 in 100 pound lots.

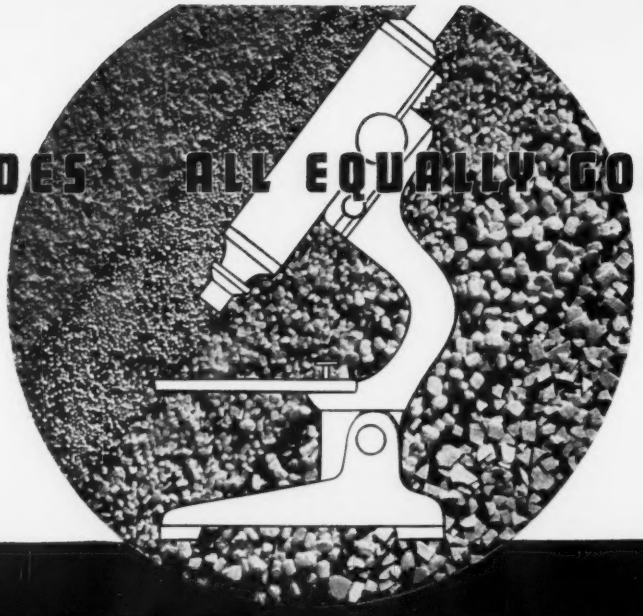
VAN AMERINGEN - HAEBLER, INC.

315 Fourth Ave., New York, N. Y.

CHICAGO TORONTO SAN FRANCISCO LOS ANGELES
PORTLAND SEATTLE SALT LAKE CITY ATLANTA

G·R·A·S·S·E·L·L·I·T·S·P

FIVE GRADES · ALL EQUALLY GOOD



GRASSELLI TRI SODIUM PHOSPHATE

FREEDOM FROM DUST···MAXIMUM NON-CAKING QUALITY···A GREAT CLEANER

• A mild alkaline salt, furnished in five grades (fines, medium, coarse, globular and flake), preferred by so many manufacturers for all general cleaning purposes.

A process that permits Grasselli Tri-Sodium Phosphate to cure makes possible maximum non-caking quality (hence, it is free flowing). It is almost instantly soluble in water. It is packed in non-sifting packages—barrels with paper liners, also fibre kegs and bags. It is stocked at our many branches and warehouses (hence, quicker delivery and economy of freight rates for you).

That's why GRASSELLI Tri-Sodium Phosphate has won the reputation as GOOD T. S. P. It will pay you to let us figure on your next requirements.

E. I. DU PONT DE NEMOURS & COMPANY, INC.

DU PONT

GRASSELLI CHEMICALS DEPARTMENT

GRASSELLI

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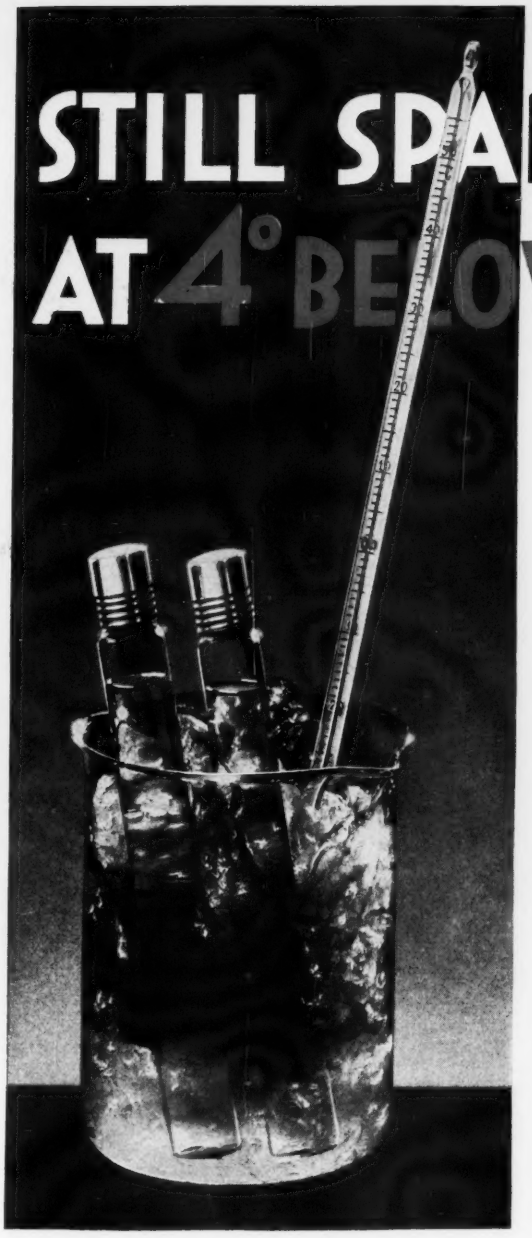
Albany Birmingham Boston Charlotte Chicago Cincinnati Cleveland Detroit Milwaukee New Haven New Orleans New York Philadelphia Pittsburgh St. Louis St. Paul

San Francisco, 584 Mission St.
Los Angeles, 2260 E. 15th St.

Represented in Canada by CANADIAN INDUSTRIES, LTD., General Chemicals Division, Montreal and Toronto



STILL SPARKLING CLEAR AT 4° BELOW ZERO C.!

TRY this test on the liquid soap you are now buying -- particularly the concentrated (40%) which you are using as a base to produce liquids of lower soap content.

"BUCKEYE" and "GEM" concentrate liquid soaps remain absolutely clear at temperatures below zero C., lending themselves perfectly for use at all temperatures as a base in producing liquids of lower soap content.

Just dilute them with distilled water --- no need whatever for any filtering.

Send for samples and prices. No obligation.

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio

"BUCKEYE" CONCENTRATE
and
"GEM" CONCENTRATE
Liquid Soaps

SOLVAY'S "BIG 3" SERVICE

Saves You Money!

Solvay's three great plants comprise the largest alkali producing unit in this country. Each of these three plants is located in an important industrial center. Each makes distribution service on Solvay Caustic Soda and Solvay Soda Ash available to customers at the lowest possible cost, and in the shortest possible time.

Every Solvay facility is extended to round out its "Big 3" alkali service — to make Solvay Service the most comprehensive service of its kind. Such Solvay departments as its Technical and Engineering Service Department, Traffic and Transportation Division, Distribution and Warehouse Divisions, are ever seeking out new means to aid customers, to reduce shipping costs and to insure adequate supplies of alkalies and allied products.

ASK FOR INFORMATION

Potassium Carbonate
Potassium Carbonate Liquor
Modified Sodas
Liquid Chlorine • Salt
Ammonium Chloride
Calcium Chloride
Causticized Ash
Caustic Potash • Soda Ash
Sodium Nitrite
Para-dichlorobenzene
Ortho-dichlorobenzene

Solvay's "Big 3" alkali service will prove of definite benefit to your business. It is a service designed to fulfil your requirements as an alkali user. Your inquiries as to how Solvay Service can be made available to you are cordially invited.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 Rector Street New York

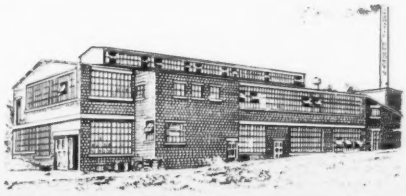
Branch Sales Offices:

Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Indianapolis, Kansas City, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis, Syracuse

DRIP & DROP • INVENT NEW CHEMICAL

While we are sorry about the Professor's headache, we cannot stop to sympathize because we're in a hurry to say that we are now in a position to offer:

AMYL CINNAMIC ALDEHYDE
AMYL SALICYLATE
AUBEPINE LIQUID
BENZOPHENONE
BENZYL ACETATE F. F. C.
BENZYL ALCOHOL F. F. C.
BENZYL BENZOATE
BENZYL BUTYRATE
BENZYL CINNAMATE
BENZYL FORMATE
BENZYL ISO EUGENOL
BENZYL PROPIONATE
BENZYL SALICYLATE
BROMSTYROL
CINNAMIC ALCOHOL
CINNAMIC ALDEHYDE
CINNAMYL ACETATE
CITRAL PURE
CITRONELLOL
COUMARIN
DIMETHYL HYDROQUINONE
DIPHENYL OXIDE
ETHYL BENZOATE
EUGENOL
GERANIOL EXTRA
HELIOTROPINE CRYSTALS
HYDROXYCITRONELLAL
IONONE PURE
IONONE ALPHA
ISO EUGENOL EXTRA
LINALOOL FROM BOIS DE ROSE
LINALYL ACETATE FROM SHIU 93/94%



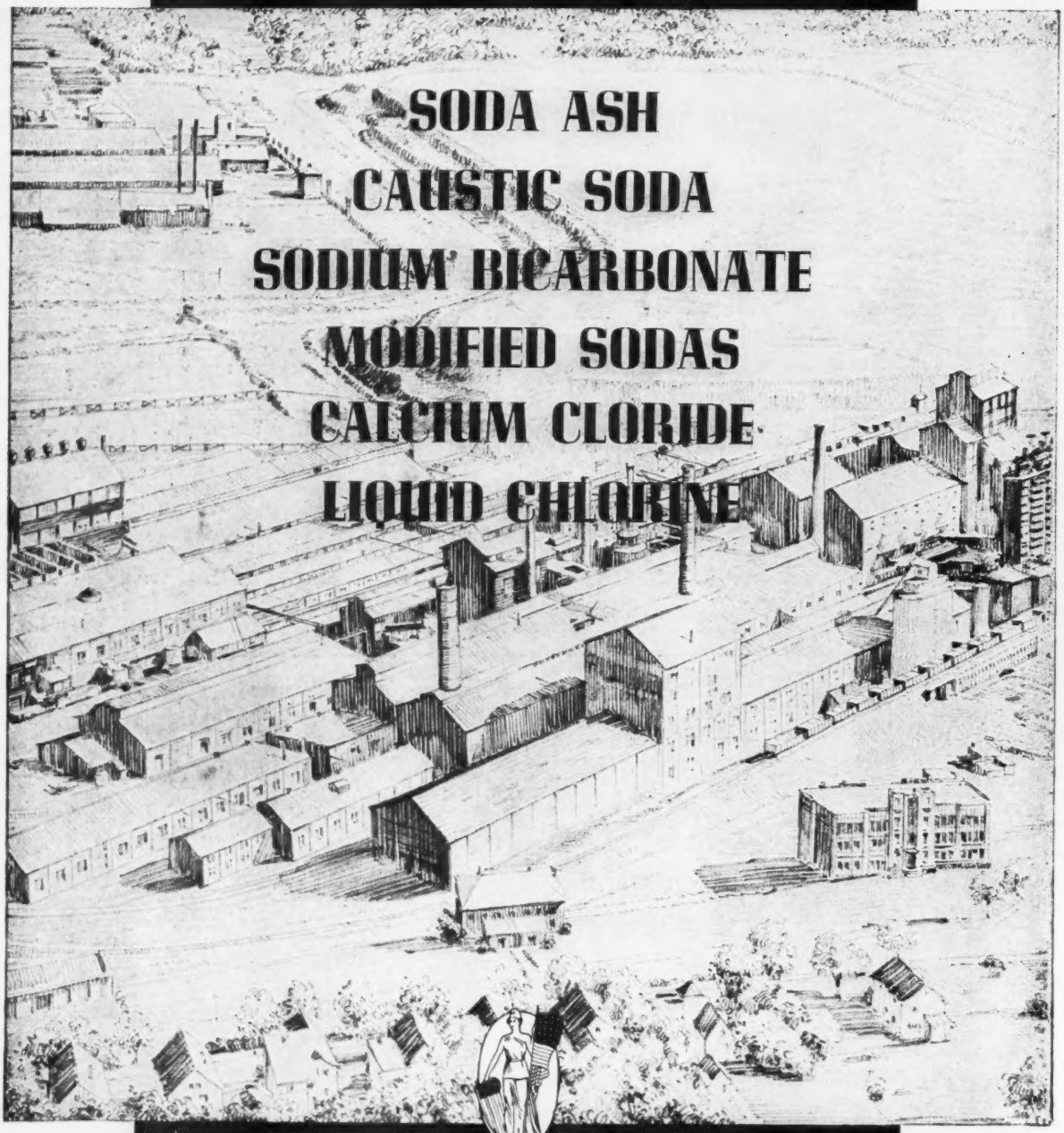
LINALYL ACETATE FROM BOIS DE ROSE 93/94%
METHYL CINNAMATE
METHYL EUGENOL
METHYL IONONE
METHYL SALICYLATE
PHENYL ACETALDEHYDE PURE
PHENYL ETHYL ACETATE
PHENYL ETHYL ALCOHOL
RHODINOL
RHODINYL ACETATE
RHODINYL FORMATE
STYRALYL ACETATE
STYRAX ESSENCE
TERPINEOL
TERPINYL ACETATE
VANILLIN

AROMATIC PRODUCTS, INC.

15 East 30th Street, New York City — Factory: Springdale, Conn.

ATLANTA 432 Marietta St., N.W.
PITTSBURGH 727 Grant Building
CHICAGO 205 West Wacker Drive
SAN FRANCISCO 503 Market Street
BOSTON 80 Boylston St.

COLUMBIA

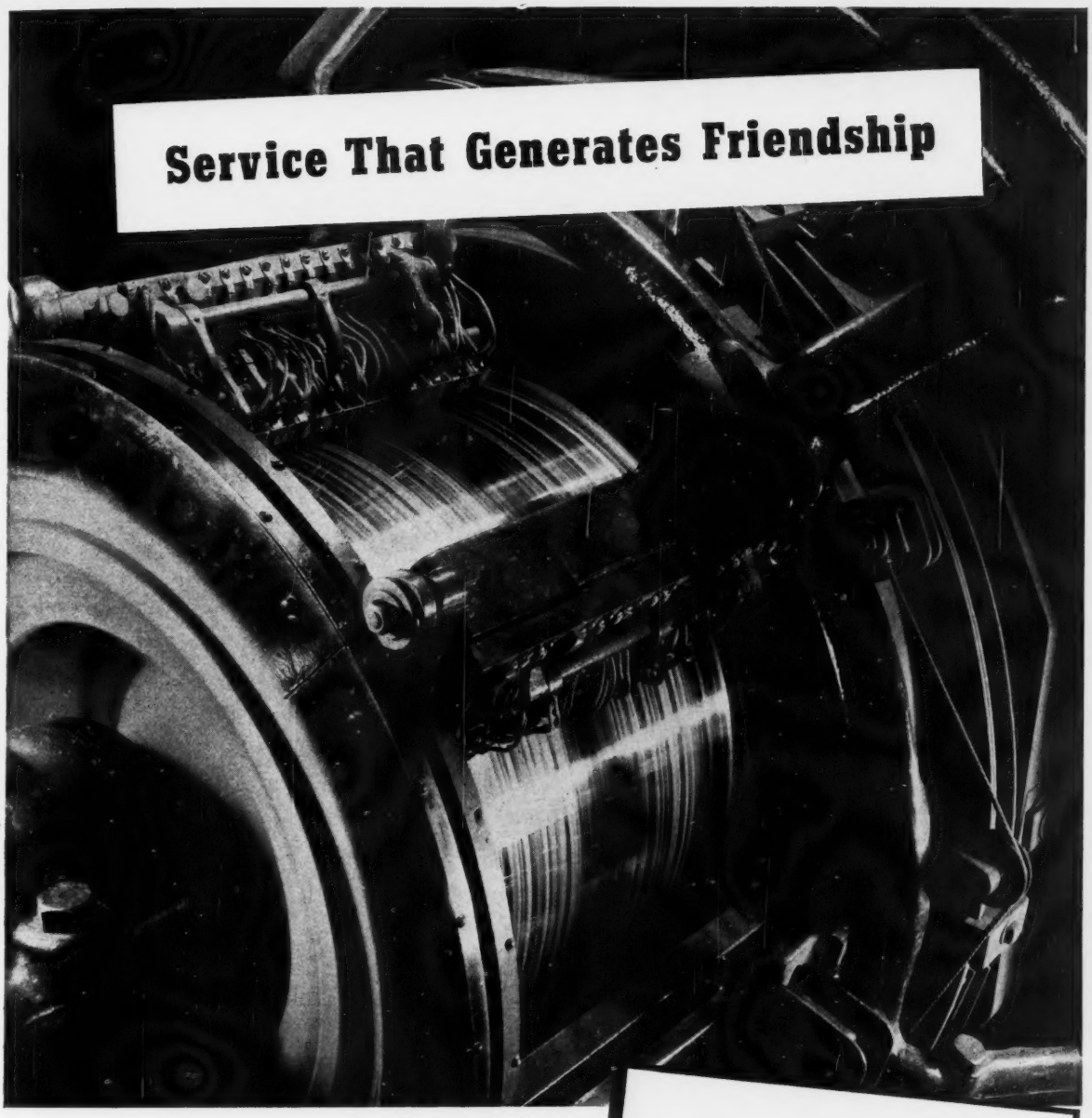


TRADE MARK REG.

THE COLUMBIA ALKALI CORPORATION

BARBERTON • OHIO

NEW YORK BOSTON MINNEAPOLIS
CHICAGO CLEVELAND CINCINNATI
ST LOUIS PITTSBURGH



● Those who use Niagara's products know that Niagara delivers orders promptly and in good condition. They also know that Niagara service does not stop at delivery. We are interested in seeing that our products do their work as it should be done. This willingness to give thoroughgoing technical cooperation has generated many friendships for Niagara and rapidly increased the number of soap manufacturers who buy...

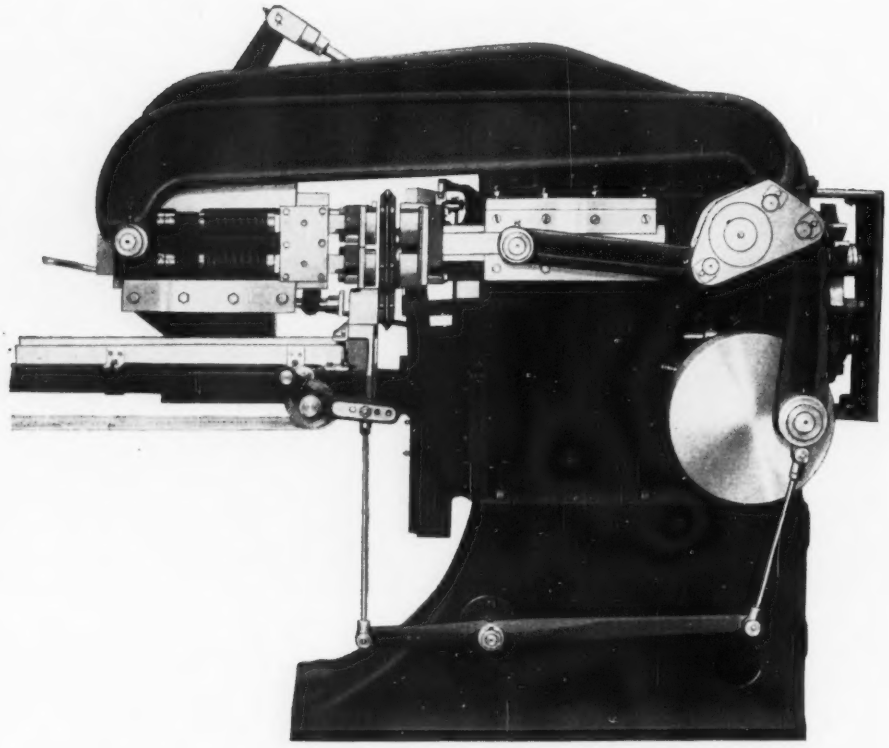
NIAGARA CAUSTIC SODA and NIAGARA CAUSTIC POTASH

Niagara
ALKALI COMPANY
50 EAST 42nd STREET, NEW YORK, N.Y.
Associated with Electro Bleaching Gas Co.
Pioneer Manufacturer of Liquid Chlorine

....high speed-

plus better pressing

with the new toggle type



JONES SOAP PRESSES

Type K JONES PRESS, shown here, will press 250 cakes of toilet soap per minute in duplex form, and in simplex form, 90 to 140 cakes of laundry soap per minute . . . a toggle type press which gives a powerful and efficient pressing stroke . . . gives better pressing, bringing out lettering, lines, and design perfectly . . . gives faster pressing and greater production . . . absolute lack of vibration at highest speeds . . . fed and run to capacity by one operator.

Compare the performance and quality of work of this modern toggle press with older models in your plant . . . and consider the economy of changing over to the newer modern type of press.

R. A. JONES & CO., Inc.

P. O. Box 485 **Cincinnati, Ohio**

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds and inserts direction sheets and corrugated board liners with the loads.

As the editor sees it....

FEAR that the next six months in the world of industry is not going to be all that might be hoped for, appears quite general among business executives. Demand for some basic commodities has fallen off, although as far as we can determine, the present pace of industry is by no means slow. Some lines are busier than ever, but a majority have seen a slackening in demand. In a few cases, the movement of goods has been sharply curtailed. But, we believe, outstanding in the minds of business men has been the sharp decline in security prices. We sense that this has instilled a fear out of all proportion to the slowing down in basic industries. Talk of another depression is even heard. Frankly, we think business is more scared than hurt,—but it can worry itself into a nice mess if it is in a mind to do so.

FROM Germany comes a rather interesting comment on the trend there in the manufacture of soaps and detergents. We are advised that in spite of the intense activities of the past few years in research and the efforts to expand the production of synthetic detergents as a means of removing the pressure from an inadequate fat supply, the newer detergents of late have been losing ground rather than making headway. The current effort is in the stimulation of whaling activity to augment the edible fat supply and release other fats for soap manufacture. The progress in sulfated derivatives of fatty acids is said to be at a standstill as far as industrial application is concerned, and such advancement as is being made, is confined mostly to the naphthalene sulfonic acid products. For detergent manufacture, the fatty acid by-products of the paper industry are likewise said to be progressing to a greater extent than the newer synthetic products.

How true a picture this is of the German situation, we do not know. The shortage of fats in Germany for several years past has severely handicapped its soap industry. It has played havoc with the processes of large industrial soap consumers. It has stimulated the research and manufacture of synthetic detergents. This we do know. But apparently, the acceptance of the newer products by users has not been all that might be hoped for. With all of its well-known shortcomings, many users would rather place their faith in ordinary soap. It is this resistance to change,—not only in Germany, but everywhere,—away from products which have been used with success for years and years, which seems to be one of the largest obstacles in the path of new detergents. Price,—and still unsolved technical difficulties are others. These are angles which tend to complicate the already complicated and rapidly changing situation in the world of detergents.

BEFORE a group of home economists recently, a well known authority on household chemistry, a professor in a leading Eastern college, described the correct technique for washing various fabrics and the difficulties encountered in their laundering. The delicacy of fine woolens and silks, and the care with which they must be handled in washing to avoid shrinking, matting, and other injury, were outlined. But little or nothing was said about the type or quality of soap to be used for the purpose. To us,

this seems quite important at the present time. There are no end of soap products on the market, the labels of whose packages recommend them for washing fine silks and woolens, which are quite definitely not fit for the purpose.

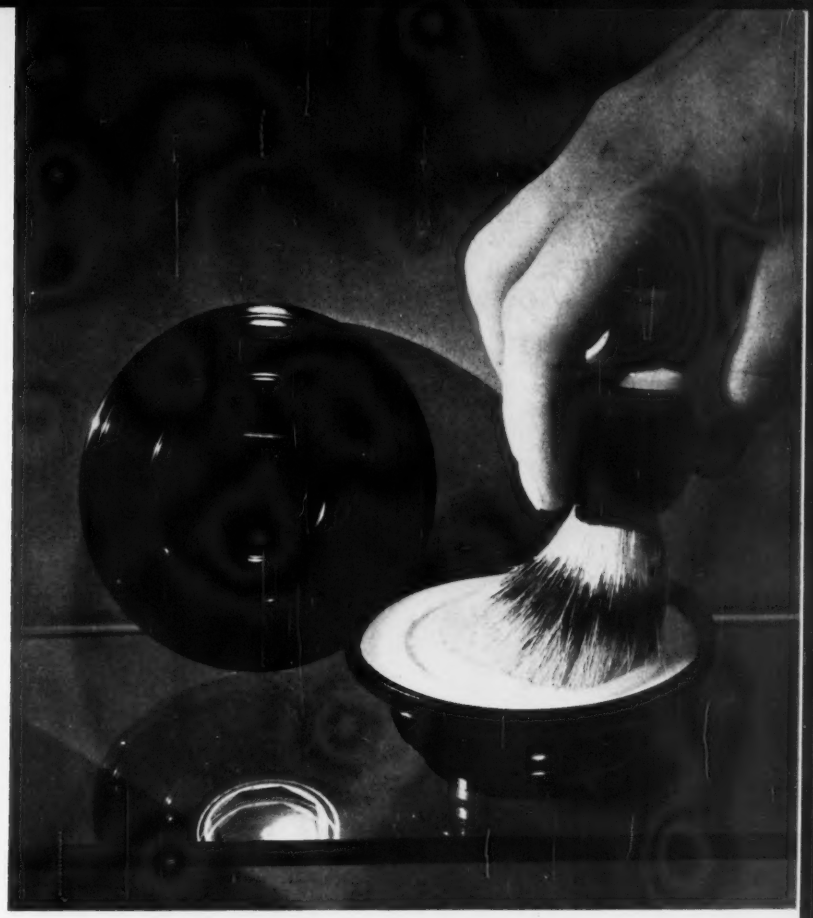
Irrespective of the type of soap, be it flake, powder, granules, or what not, the manufacturer apparently feels that if he does not recommend it for washing fine fabrics, his market will be very considerably curtailed. Therefore, either knowing definitely that his product is not suitable, or at least suspecting so from its composition, he makes the recommendation anyway in an attempt to get into a market where his product does not belong. That considerable damage results to people who accept the manufacturers' recommendations at their face value in washing fine fabrics, must be the case. Before some outside agency, public or private, goes further into this matter, it might be a good idea for manufacturers to look into it themselves.

A WELL-KNOWN soap executive recently gave his reasons for the demise of the automobile soap business,—or at least its near-demise. He is quoted as stating that the new highly-resistant finishes on motor cars make the use of soap unnecessary today in washing these vehicles. To some extent, this may be so, but we had the opinion rather firmly implanted underneath our skull that the manufacturer of automobile soap was the chief reason why these products fell into disuse. We seem to recollect that the quality of much of the auto soap on the market not so many years back,—particularly the large hard bars, and not the true potash soft soap,—was a great help in discouraging its use.

So many funny things happened to automobile finishes after they were washed with these so-called soaps, that garage operators evidently concluded that the safe course was to use no soap. In fact, it was a standing joke in many soap plants that any old junk for which a use could not be found elsewhere, went to the auto soap kettle,—and the mention of auto soap usually brought smiles to the faces of the workmen. It is no wonder that auto soap is in disrepute; anything else would have been a miracle. Furthermore, the garage operators as a class would not, or could not, pay the price for a decent grade of soft potash soap. And so, irrespective of the ability of the newer automotive finishes to withstand punishment, we doubt that they could have withstood the rigors of many products on the market. And thus, we conclude, auto soap dug its own grave.

WHEN something goes wrong, it is human to want to place the blame on somebody else. In the world of industry, we have seen innumerable cases of this very thing. Usually it is the supplier of the raw material at whom the finger is pointed. Blaming the raw material is generally the easiest course, and always the safest. If the raw material supplier wants to hang on to the business, his reply must be tactful and deft. He cannot come out flatfooted and tell his customer that said customer is slightly off his base. He cannot fight back too strenuously, —or he may find himself out in the cold when future orders are placed. But, the buyer, safe in his position as a buyer, can with impunity throw the whole problem in the lap of the supplier, tell him he is guilty, and dare him to prove otherwise. It is a sad state of affairs, but it is true and happens every day.

We have seen a number of instances where gross ignorance on the part of a user of a material,—a plain lack of technical knowledge,—has been responsible for accusations of faulty raw material. We know of several cases of this nature which have ended up in the courts. It appears to be the fashion of the day,—if something goes awry in process, blame the raw material supplier first, and then look for the cause of the trouble. That the material supplier should not be held responsible for lack of intelligence on the part of users, is obvious. But it is done. For how many users will admit that they lack the knowledge to use a product properly? So here is a thought,—the next time something goes wrong in the plant, check the plant, and the men, and the process, before calling some supplier on the carpet and making him stand trial for a fault which may not be his.



SHAVING SOAPS

A European chemist gives his ideas on the formulation of shaving soaps and creams,—and comments on the raw materials used.

By Albert F. Samuelson

ALTHOUGH the shaving stick and other forms of solid shaving soap do not enjoy the popularity which once was theirs, they are still important products in the realm of soap manufacture. Economy in use is their great asset. They are produced by two different methods because they are mixtures of soda and potash soaps. Some makers saponify the fats in one operation with mixed lyes, while others, the majority in fact, disagree with this method and make a separate soap of each and mix them later. Where this is done, the soda portion of the shaving soap is essentially a high-grade toilet soap of the usual type used for tablet making. The manufacture of this soda soap will be discussed first.

The shaving soap industry has been built upon a foundation of highest purity in raw materials, almost of edible quality. This has been particularly true in the British Isles. It has been a business necessity, because any departure from high raw material standards has only been offset by increased cost in finishing operations, an increase in perfuming costs, and sometimes an unsatisfactory soap. It is in the more strict requirements of raw material quality that shaving soaps differ from ordinary toilet soaps.

Raw materials used for the soda soap shaving base are beef tallow and coconut oil, with a trace of resin. Some cheaper shaving soaps use bleached palm oil in substitution for part of the tallow, but it is noted that the product is never as white as the first quality. Opinion differs in some soap works as to why beef tallow is to be preferred to mutton tallow. I hold no brief for either side, but as a practical soap chemist, I consider that there is something to be said in favor of the beef tallow supporters. Some soap makers consider that the chances of rancidity developing are greater in a base made from mutton tallow. My opinion is

that it will develop in both kinds of base, but the danger is less with beef than mutton. This is a vexed question among European soap chemists.

Having mentioned the necessity for edible grade tallow, very little need be said about the resin and coconut oil, as the variation in these two products is not great. However, the resin must be of the W.W. or W.G. grade, and the maximum percentage in the soap should not exceed two per cent. The coconut oil free fatty acids must not be higher than five per cent; less is certainly much better. As regards the tallow, the titre is important. As a point of general interest, the titre of the stuff we are in the habit of using is in the region of 42.5° and not exceeding 43.5°. This ensures all things being equal, against cracking or shelling tendencies. If, of course, only higher titre tallows are available, the titre could be lowered by marrow fats or lard oils, but if possible, it is advisable to get the 43.5° fat, and make the blend as follows:

75 to 80% Beef Tallow
20 to 25% Coconut Oil
2% W.G. or W.W. Resin
on the above.

The following is the procedure. Saponification of the tallow is carried out first, and the lye change carried out in the usual way, with a faint permanent taste of free caustic apparent. When this stage is reached, it is usual to put in the resin. This acts in two ways,—it will take up the free sodium carbonate that is usually present in commercial caustic soda and if it also takes up free caustic soda, a little more can be added,—but it will have removed a danger in free mineral carbonate.

The tallow-resin soap so formed is now cut or opened to allow the lye to settle out by means of brine. This is used in preference to salting out with solid salt, since any salt that became occluded and undissolved would cause a lot of trouble later in the milling operation.

After the lye has been drawn off, the coconut oil saponification commences. This is an important part of the boil. When the amount of caustic soda solution necessary to convert the oil into soap has been taken up, or the caustic taste remains permanent, the mass is kept on the boil gently, and more caustic is added at subsequent intervals until the mass is slightly open or cut. This goes on for about two to three hours after the last addition to make sure that the mass absorbs no more alkali. It is then allowed to settle over night and the half spent lye drawn off, and stored for future use.

After the lye is away, open steam is put on, and the mass again brought to the boil. During this, the soap will close again due to the action of the condensing steam. Again, a small amount of liquid caustic soda is run in as before, until the soap has been reopened, and simmering is carried on for another two hours or so. This second strong boil, as it is called over here, ensures, (or should) if the operation is carried out properly, that no unsaponified fat can be left. Then it is allowed to settle again and the lye run off and used as the last.

All that remains now is the "fitting" operation, closing the soap by boiling with open coil. The question now arises, whether the fit should be close or "fine," or slightly open, or "coarse." The amount of caustic soda used in the second strong change, will determine to a large extent. Personally, I prefer a fit on the fine side. True, the nigre will be larger than the coarse one, but the resulting soap will reward the maker for this.

In modern European factories, the soap pans are "lagged," as it is called, externally to prevent radiation of heat and the mass may have to remain four days upward to rest according to the size of the charge before it is at the right cleansing temperature. A test sample of the base is sent to the laboratory, this being tested for mineral salts, free alkali, etc.

The molten soap of a fatty acid content of 64 per cent, is run through a continuous dryer, and upon emerging has a fatty acid content of 76 to 77 per cent, the ideal percentage for milling. The temperature in the drying chamber should be about 130° F. Store the flakes for two days and then they are ready for the next operation.

THE next step is making the potash base. The following is recommended: a mixture of white lard, cochin coconut oil, and stearine, saponified with caustic potash solution. Take 11 parts by weight of white lard, 37 parts of cochin oil, 11 parts of 130° white stearine and melt all together in a steam jacket pan. When melted, add with stirring one part of boro-glyceride and 50 parts of caustic potash solution of 34° Be. Warm gently for a few minutes, then cover and leave overnight. Saponification will proceed, and should be complete overnight. Test with phenolphthalein. Should it give a pink coloration, this can be regulated in the mills.

Another potash base and again one that is a well-known firm's specialty is:—3 parts by weight of cochin coconut oil and 7 parts of stearine 130°, melt together in a jacket pan. When melted, add 3 parts of caustic potash solution of 70° Tw. This will saponify at once, and should be allowed to stand 24 hours. Bear in mind these factors:—stearine must be saponified in enamel pans, as it goes pink in iron ones; coconut proportions could be increased but coconut soaps hydrolize readily and are not kind to the skin.

In the milling operation, charges vary from one part of the potash base to four of the soda soap flakes, a small proportion of gum tragacanth mucilage, a little boroglyceride, the usual perfume,—and a little tip, about 1 per cent spermaceti.

In Europe, especially in England, there is great faith in lavender perfumes. It is present in the largest percentage of shaving soaps, quite right from the selling point of view. There are more people who like this type of perfume than the reverse.

SHAVING cream soaps are quite different propositions, the finish and the silky lustre of which are to a large extent due to the nature of the plant used, but not so much as some writers would have you believe. These are mixtures of stearic acid and cochin coconut oil with varying proportions of caustic potash and caustic soda, this variation being due as to whether the cream is wanted for summer or winter use. The manufacture takes place in a jacketed pan of the enamel-lined type and no open steam is needed or required, as the cream usually is finished slightly on the fatty side.

The percentages of the various ingredients, or better parts, as they total over one hundred parts, is as follows:

Winter Cream

	Parts
130s Stearic Acid	35
Cochin Coconut Oil	3
Glycerine	3¾
Caustic Potash, 50° Be	11¼
Caustic Soda, 70° Tw	3¾
Water	45

Summer Cream

	Parts
Stearic Acid	35
Cochin Coconut Oil	3
Glycerine	3¾
Caustic Potash, 50° Be	8¾
Caustic Soda, 70° Tw	6¼
Water	45

The making of the above is as follows:—in a jacketed enamel pan, put in all the water and the glycerine. Heat, and weigh out the stearic acid and the coconut oil. When these have melted, add one pound of spermaceti, ¾-lb. of lavender perfume, and for the summer cream, ¼-lb. menthol crystals, the latter dissolved in the lavender perfume.

Now while stirring, have the mixed solution of caustic potash and soda poured in, as the soaps are formed, the hot water and glycerine will dissolve them and at the end of the addition of alkali, the mass will have become solid. (Heat must be discontinued as soon as the fats are melted.) Give the hot mass a stir to mix thoroughly and cover up. After intervals of three hours, turn the mass over, say about three times in all during the day.

Next morning, take out and put the cold soap through a pug mill. At this stage, the soap changes from a solid almost transparent lump to a cream and if stored for a day, it will develop a silverlike sheen. This is, I think, due to the fact that the superfatting in the soap is due to stearic acid, not coconut oil, and the grinding breaks down these crystals into minute particles which reflect the light.

There is a lot of advertising in Europe for shaving creams of the brushless, soapless type. The success of these creams, however, depends largely on the amount of advertising done by the respective makers rather than the spontaneous demand of the public. Perhaps Europeans are more conservative than Americans and a new article involving such drastic alteration in handling is taken up very slowly by the public here. The creams are of the brushless type where bodies like di-glyco-stearin mixed with mineral oil, water and glycerine are used, or similar bodies blended on a vanishing cream base. The question of success is, I think, an individual one.

I have met quite a lot of people who are really only interested in their value as shaving mediums, and not as time-saving preparations. And the general European view is that while they may fulfill the conditions stated for a man who has a light growth of beard, they are unsuited for a man who has a stiff beard. The same cannot be said against any good shaving cream of the stearine-coconut oil type.

I am under the opinion, however, as a maker, that the novelty of brushless, soapless shaving has been rushed on the market before full consideration or tests have been completed, and on this subject much more research is needed to perfect an article that satisfies all conditions.

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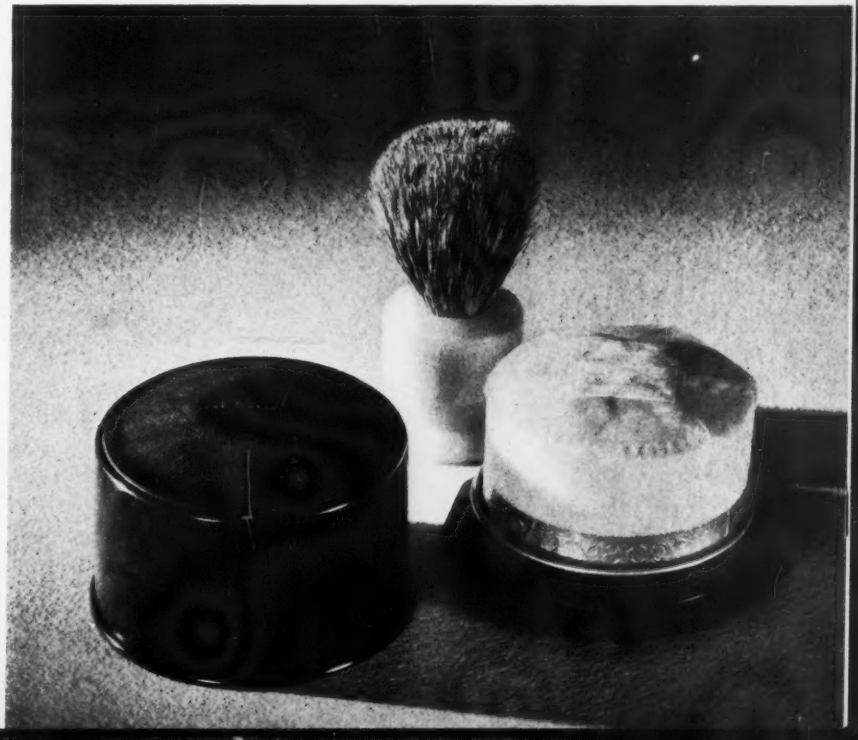
One of the many unusual uses to which soap is sometimes put is in the launching of ships, where some slippery material is needed to ease the way down the launching skids and to avoid charring the ways. In the recent launching of the *Queen Mary* in England a mixture of 50 tons of black soap and 150 tons of tallow were used. In Italy a mixture of soap and sago is used because of its cheapness. In the recent launching of the battleship *Littorio* 32 tons of sago and 2 tons of soap were used, the mixture being cooked in large cauldrons until it reached the right slippery consistency.



WHITE SHOE

DRESSINGS and cleaners for white shoes have taken on added importance. They now sell during twelve months in the year, whereas they used to sell only during a few months in the summer. The time was, in the not distant past, when white footwear was confined largely to professional people while on duty and a few trades-people where the atmosphere of cleanliness or sanitation was enhanced thereby in the summer season. Today everyone blossoms out in white and if the Middlewest is any criterion, young America is wearing it all year 'round.

Last winter we smiled as our daughters treked to school in fur coats, short hose and white footwear, sometimes accompanied by neighbors' sons in corduroy slacks, lumber-jacks and the inevitable white shoes in all states of cleanliness and repair. What the future holds in store is anyone's guess, but we feel that white is not a passing fad but has come to stay. This is based on marked improvement in white leather tannage generally, sensible, comfortable styles in white shoes, and white shoe dressings in a wide choice, most of which have merit.

And manufacturers of dressings have been quick to cash in on this expanded demand. The names on the labels show that the widely sold brands are by no means confined to the old stand-bys in black and colored shoe polishes. In fact, some of the better known names in white shoe dressings offer no companion black or colored products.

Ordinarily one can swear by the results of a consumer survey on any reasonable question or product. In the case of white footwear and shoe dressings, one will not necessarily swear at the outcome, but certainly question some of the results. The results of a privately conducted survey are passed along as tabulated although it is doubtless contrary in spots to the observations and ideas of many experienced observers.

It is always well to know to what use the product that is to be developed is to be put. The characteristics of a satisfactory cleaner or dressing for smooth leathers will

CLEANERS

Their importance grows as an all-year around demand develops — some hints on formulation, manufacture, and packaging problems.

By Ralph H. Auch

differ from those for use on rough leathers and fabrics. Here is the outcome of a survey among women as to the kind of shoes they are wearing. Had men been included, quite likely the kid and fabric percentages would be lower and the rough leathers appreciably higher.

	Per Cent
Kid	43.9
Canvas	20.1
Buck	14.6
Calf	10.3
Linen	9.7
Pigskin	1.4

No one brand of dressing dominates the market, for 17 brands each enjoy over one per cent of the call with a total of 46 brands named as the choice in the various homes. Seven brands each enjoy over three per cent of the business and run as follows: 11.3; 10.4; 8.5; 6.6; 5.7; 5.6 and 3.8 per cent respectively. Two old household names, among shoe polishes generally, are in first and sixth positions. Among the incidental uses for white shoe dressing referred to enough to be worthy of mention are panama hats, white linen hats, womens' straw hats and fabric and leather purses. These may well be borne in mind when carton and label copy is in preparation.

The cream type offered in a tube is a four-to-one choice over liquids, the actual percentage choice being 81.2 for the former against 18.8 for the latter. While it is true that the large makers offer their product in both liquid and cream forms, the liquids predominate in the retail outlets this year. If the survey is at all accurate, dealers have been slow to sense the shift

but this condition will rapidly correct itself. This shift is significant to the manufacturers and if any have not yet given thought to the cream type, they may well do so.

The desirable characteristics of white shoe dressing in the apparent order of their importance are: 1. It must not rub off. 2. It must remove stains rather than mechanically coat or cover them. 3. It must be harmless to leather and fabrics. 4. It must lend itself to use without undue work and muss.

The liquids and creams have much in common, so will be discussed together. The liquid type lends itself better to the inclusion of a solvent or mixture thereof, since it runs three-fourths or more liquid against only about one-third in the creams. The pigment portion of six popular liquid brands ran 16.80; 19.12; 20.06; 20.32; 22.42; and 26.21 per cent while four creams ran 57.7; 59.1; 61.0 and 64.8 respectively.

Essentially white shoe dressing is made up of pigment, adhesive or binder, and a cleanser with or without the addition of a solvent or mixture thereof together with a preservative, if required, and perfume, if desired. The number of pigments that have been used is almost legion. Among those that have come under observation are zinc oxide, talc, china clay, bismuth sub-nitrate, precipitated chalk, whiting, zinc sulfide, lithopone, titanium dioxide, titanium pigments, and magnesium oxide and carbonate. But this by no means exhausts the list. Lithophone was present in most of the many brands analysed, representing the pigment in whole or in part, with zinc oxide next in favor.

Among the adhesives that may be employed are the various gums, particularly karaya and tragacanth, dextrin, glue or gelatin and albumin, borax or ammoniacal solution of bleached shellac, alkalized casein and soap. Among the cleansers are trisodium phosphate, triethanolamine, alcohol and other water soluble organic solvents and soap. Five of the best selling liquid brands were centrifuged and the supernatant liquid tried out practically. In no case did the liquid portion clean any better than clear water used as control. In this respect, manufacturers are missing their opportunity.

As for the preservatives, they are required particularly where the solutions of adhesives such as glue and albumin that are good culture media, are used. They include phenol, sodium salicylate, salicylic acid and certain essential oils.

INNUMERABLE formulas could be set down readily but suggestions will be confined to one each of the liquid, cream and emulsion types with various modifications suggested. By experimenting with these variations, scores of formulas can be prepared to meet any individual needs, ideas or whims.

LIQUID SHOE DRESSING

Lithopone	20 to 22
Disodium Phosphate	1 to 2
Bentonite	1 to 2
Perfume	0.1 to 0.3
Water	79.9 to 73.8
To make	100

This is simply a mechanical mixture to which any desired amount of any chosen adhesive can be added, not overlooking the necessary preservative. As is, in comparative tests, it was a two to one choice over the best selling commercial liquid dressing. It is well to remember that the more binder used the more difficult it is to get uniform application, to brush or wipe off any excess and to prevent a "whitewashed" rather than the fresh new appearance that is sought.

The lithopone which is so widely used can be replaced in whole or in part with other pigments. For better spread, a little talc or zinc oxide may be employed, and the latter also helps the cover. Chalk, clay and other cheap materials may be used as extenders. The disodium phosphate may be replaced with trisodium phosphate, sodium silicate or triethanolamine or a few percent of liquid soap may be employed.

The bentonite prevents the pigments from hardening in and adhering to the bottom of the container, facilitates the shaking back in and retards settling while the product is in use. If the bentonite and extenders make the product off-white, a trace of ultramarine blue thoroughly incorporated with the pigments will be found helpful.

CREAM OR PASTE SHOE DRESSING

Lithopone	60 to 65
Soap chips	6 to 8
Sodium silicate	0.25 to 0.5
Perfume	0.25 to 0.5
Water	33.5 to 26
To make	100

Most of the remarks under liquid dressing are applicable here. A small percentage of talc or zinc stearate will add a desirable slip to the cream in use. The soap used may well be good toilet soap base and the percentage used must be adjusted up or down dependent on its titre, the absorption capacity of the pigment combination employed and the desired consistency. By making it quite firm in body, the "French shoe soap," type as offered for sale in opal glass jars of about two-ounce capacity at 25 cents retail can be prepared.

The sodium silicate is added to inhibit corrosion of the tin tube. Aluminum tubes are out on account of the presence of the soap and lead tubes cannot be used because the lithopone in contact with the interior walls of the tubes will cause the cream to exude a dirty gray. So that low cost lead tubes will work, the lithopone can be replaced by titanium dioxide and inert extenders. Straight titanium dioxide is expensive and has a needlessly high covering power, so instead of adding an extender as such, a titanium pigment with it already incorporated may be used.

Some use the 25 per cent titanium dioxide and 75 per cent chalk (calcium carbonate). However the one corresponding to lithopone i.e. 25 per cent titanium dioxide and 75 per cent barium sulfate is to be preferred, for it costs but little more and has better cover than lithopone itself. This titanium pigment has more abrasive cleansing action than most any

other pigment mixture that could be employed.

EMULSION TYPE SHOE DRESSING

Titanium pigment	20 to 24
Gum Damar	2 to 4
Triethanolamine	0.9 to 1.2
Oleic acid	2 to 2.5
Carbon tetrachloride	10 to 12
Naphtha	12 to 14
Water	53.1 to 42.3
To make	100

This type containing organic solvents is relatively expensive to make and being an emulsion, the method of preparation needs to be briefly outlined. The naphtha and carbon tetrachloride are mixed, the damar dissolved in the mixture and the pigment suspended in it. The triethanolamine is dissolved in the water and after warming to 135° F., the oleic acid is run in with agitation. It is then vigorously stirred while the gum, solvent and pigment mixture is run in in a thin stream. Care and skill is required to insure a stable emulsion.

Variations include adding a little gum elemi to the damar as a plasticizer, replacing the damar with dewaxed shellac in which case alcohol is used as the solvent and substituting linoleic acid for the oleic. A mixture of any other inert pigments may be used instead of the titanium. The solvent mixture is the usual home dry-cleaning mixture and if inflammability is of no concern, then the carbon tetrachloride can be replaced with the naphtha or any other desired solvent.

This type is particularly suitable for smooth leathers where much less dependence can be placed on the covering power of the pigments and it must exert a more active cleansing action. This cleansing action can be both chemical and mechanical. The pigment scours and the triethanolamine soap cleanses, while the solvents exert their solvent action.

One criticism of commercial dressings generally is that the pigment has not been rubbed smooth and free of agglomerates and in the case of pigment mixtures they are not mixed intimately enough. One manufacturer was formerly known to add the pigment portion to each individual bottle then run the liquid portion in on it. To make a satisfactory smooth cream it is almost imperative that the product be milled on a roller mill, such as is used for paint or ink, before packaging. This may account in part at least for the limited number of this type of dressing available when the trend is definitely toward them.

In the liquid type, if bentonite is incorporated, it can be intimately mixed with the other pigments in the dry state, then sufficient water added to form a paste which should be milled before dilution in the other ingredients. As for the emulsion type, passing through a colloid mill not only disperses the pigment but stabilizes the emulsion as well.

NOW consider packaging. For the liquids in the better known brands, two ounces appears to be the accepted ten-cent size, although a newcomer is 2½ ounces, and five ounces is about right for 20 and 25-cent retailers. Creams offered in tubes are 1½ to 1¾ ounces in the 10-cent, and 3½ to 4 ounces in the 20 and 25-cent sizes.

The liquids should be agitated while filling even though the pigment does not settle rapidly but the creams or pastes offer no particular problem in filling off into tubes, if handled cold.

Various applicators are provided in the package, although the survey indicates some are worse than none. A square of turkish towel is common but not in favor probably due to soiling so badly and the difficulty of cleaning it. A small cheap natural sponge is not well liked because small pieces constantly break off. A piece of mohair backed by a film of rubber to prevent penetration and attendant hand soiling is favored by some users. The square or elliptical shaped piece of sponge rubber is best liked, but not generally offered in the package. All are permanent handicaps because of their first cost and the extra labor cost of inserting in the package. One of the well-known newcomers encloses no applicator and stresses that his cleaner be applied with a *clean* cloth. His position in the matter is well taken, for the user can find a scrap of clean rag each time and is relieved of keeping the applicator in clean usable condition for as long as the contents last.

Carefully prepared directions that are simple and practical should be provided. Some make poor reading and give even poorer results, if followed. Another current fault is that many brands carry directions on the carton and not on the container. The carton is ordinarily discarded long before the contents are completely used. The requisites for a good dressing, as uncovered in the survey and stated earlier, form a good foundation upon which to build promotion copy.

While most brands of dressings are held out for all types of white shoes, one well-distributed brand offers two liquids i.e. one for all fabrics and rough leathers and a second for kid and other smooth leathers. The first has a water base, whereas the second contains solvents. This appears to be the part of wisdom and the liquid and cream formula suggestions are good starting points for the former and the emulsion type for the latter.

In addition to these three types, there is the "soap" modification of the cream offered in a jar but it enjoys but a limited following. There is also the loosely woven bag of solids to be carried in the purse for touching up soiled spots. Few apparently go to this trouble and in use, it is far from satisfactory. Still another is the nitrocellulose lacquer type best suited to shine parlor use for sole edging. However the tendency is away from white soles, especially in men's footwear generally and women's for sports wear. The only other application is for all-over use on cheap lacquered split leather shoes and these are an abomination at best. These latter types then have small potential markets that are waning so may well be left to the specialist.

The Newer Detergents

First of a series of articles on recent developments and patents in wetting, emulsifying and detergent agents

By Charles E. Mullin, D. Sc.

NUMEROUS and revolutionary have been the chemical developments of the past few decades. Not the least important among these developments has been the chemical progress in the closely related fields of detergents, wetting agents, and emulsifiers. This progress has been so rapid and along such a wide front that it has been with difficulty that the average interested technical man has kept abreast of things.

The use of soap and the natural detergents, such as the saponins, certain clays, etc., antedates our present records, but it is difficult to determine whether the natural detergents came into general use before the discovery of soap. It appears logical to assume that this may have occurred. Some one has suggested that soap was discovered by accident, perhaps by the boiling over or spilling of a cooking vessel containing animal fat onto the hot alkaline wood ashes of the fire. While all this is hypothetical, it assumes that man did not know, or use, soap until he developed to the stage where he cooked at least some of his food. He certainly must have been a dirty fellow if he did not use some detergent in all the ages of development prior to the age of cooking. Anyhow, the use of wetting, cleansing and emulsifying agents dates from antiquity and the very early history of man.

There appears to have been little effort to improve upon soap and other early detergents until the advent of the sulfonated oils. The sulfonated oils are a much later development and, as the name Turkey-red oil indicates, were a development of the dyeing of Turkey or alizarine red from madder root, itself a very old industry. However, the first sulfonated oil used in this way was sulfonated olive oil and not sulfonated castor oil.

Probably the first substitutes for sulfonated or Turkey-red oil, for uses other than in mordanting alizarine or madder, were the naphthenic acid soaps. The naphthenic acids were first recovered in quantity from the Russian crude mineral oils and their soaps first found use in the textile and other industries, particularly in Russia, during the 80's.

The use of aromatic compounds in this way came much later. Probably the first general development along this line was the early well-known Twitchell reagent, sulfonated naphthalene. The later Twitchell reagent was a sulfonated petroleum oil product, a by-product of petroleum refining. Both of the Twitchell reagents are emulsifiers and very probably owe much of their value in the splitting of fats to this property of emulsification, although this fact does not appear to have been recognized in the early literature.

It is quite probable that the value of the first Twitchell reagent as an emulsifier led to the discovery of the sulfonated alkyl-substituted naphthalenes, some of which were later marketed as Nekals and under other trade names. These naphthalene compounds were among the first of the now very large group of newer wetting, cleansing and dispersing agents to come into wide use. Their value is proven by their present wide manufacture and use, in spite of the many more recent discoveries in this field. However, it is interesting to note that many of these naphthalene products are better wetting agents than they are detergents and emulsifiers.

The value of sulfonated mineral oils as fat-splitting assistants naturally lead to trials in other fields and they are now widely used for special purposes, particularly as oil emulsifiers and textile lubricants, as will be discussed later.

While all of this "ancient history" is very interesting, it is the purpose of the present paper to review the most recent developments and patents, rather than those of the past. In fact, any attempt completely to cover the patents and literature in this field to date would require a series of books, rather than a few papers. Such a complete historical review would be of tremendous interest and value, in connection with both present and future research, as well as in connection with the patent situation.

As intimated above, at present there is a decided interest in new detergents, wetting and emulsifying agents. The one reason for this in-

terest is that those engaged in chemical research and manufacture realize the tremendous market for products of this type. Of course the textile and laundry industries have long been the major outlets for soap and related products, and the tonnage used might surprise many not connected with the soap industry. While both the textile and laundry markets are largely interested in low-priced products, these are the volume markets at which almost all research is aiming. On the other hand, there is a more limited but very definite market for products with specific desirable properties, for certain special uses.

The uses of soap and its assistants were very appreciably widened by the sulfonated oils. In fact, each new and improved oil brought new uses and markets. In the same way, many of the newer synthetic products open up new and special uses, often due to some one or two particular characteristics of the compound or mixture.

The first of the new wetting agents to appear on the market was recommended for practically all of the known and many of the imagined uses of soap and the alkaline assistants. The manufacturers appeared to believe,—or hope,—that the new products would eventually entirely replace the ancient soap and sulfonated oils. More recently, through considerable experience, most manufacturers have learned that a great deal more progress must be made before our old friend soap can be entirely replaced, even in the textile industry. The old policy of recommending the new synthetic products for uses for which they were not at all suited has been found definitely to be detrimental to the introduction of all new products. It is now considered necessary, or at least very desirable, to have definite information as to just where and how the new product can be used to advantage before placing it on the market. This often requires considerable investigation and many comparisons with similar products already on the market.

Wide Uses for Wetting Agents

THE wide use of the wetting agents now on the market is indicated by the fact that at least some of them are of value in practically every wet process in the textile and almost all related industries. They are also used in such widely scattered fields as in printing and writing inks, pastes and adhesives, to increase the absorbency of paper towels and absorbent cotton, to facilitate reactions between immiscible liquids as in the refining of petroleum oils, or between liquids and solids as in the nitration of cellulose, to increase the value of certain lubricants, to aid in laying the dust in coal mines, mills, etc., in flotation processes, in soldering and other metal fluxes to assist one metal to "wet" the other, in defrosting and fog dispersing mixtures for use on automobile and aeroplane glass, in carbon removers for internal combustion engines, fire extinguishing (foaming) solutions, in lead pencils, in wall-paper removers, vat and other dye powders, in currying and tanning leather, in conditioning liquids for use on textiles, cement, in paints and paint pigments, varnishes, dentrifices, cosmetics and shampoos, antiseptics, in the preservation of fodder for forage, in insecticidal sprays and in the removal of such poisonous products from fruits and vegetables, carpet cleaners, dairy detergents, etc., etc. Obviously, no one product can be best for all of these varied uses.

It is now recognized that practically all of the products so far developed have only a limited usefulness and that very few of them combine the three properties of wetting out, emulsifying and detergency to the maximum. Many of the best wetting out agents have a very limited detergent action, but most of the good detergents have some emulsifying action, even though they may not wet-out as well as some of the better wetting agents. Some of the emulsifiers have little value as wetting agents. However, this does not mean that new products with only good wetting out properties will be of little value. In most cases, it is possible to find some use for the product even if it exhibits only one of the above properties to a high degree, and the price is reasonable.

It is quite obvious that the properties most necessary for the successful use of a product in one field are very often entirely different from those most desirable for some other purpose. For example, in the products most useful for domestic laundry use in many parts of the country, and for most cleansing processes in the textile industry, resistance to the detrimental effects of hard water is extremely desirable. On the other hand, this is not so important in a mercerizing assistant, which serves only as a wetting agent in the strongly alkaline caustic soda mercerizing bath. In the same way, a spray for fruits and vegetables should contain a good wetting agent to assist spreading, but the solution used to remove this spray from the fruit should also contain a good detergent which is not altered by the materials present on the fruit or vegetable.

The ability of a product to actually remove the more or less insoluble calcium and magnesium soap compounds found on textiles, etc., washed with soap in hard water is usually desirable, as the addition of such a product to the rinse water usually greatly improves the color of the goods and the efficiency of the scour. The limited property of rendering calcium salts, etc., soluble is also desirable in a dentrifice, provided it does not go so far as to remove the calcium naturally present in the teeth. The synthetic products have found many new uses, in new fields, and will find many more, which soap, etc., can never hope to fill.

The first of the many synthetic wetting and detergent agents were developed abroad and were marketed by some of the firms now forming the I. G. Farbenindustrie A.-G. More recently the interest and research in these products has been more widespread and we now find many of the

more progressive firms in the United States giving a great deal of attention to the development of products for this field. It is interesting to note that although a very great deal of progress has been made in the development and manufacture of the products themselves, as yet we do not fully understand just how and why they function in every case. In other words, the practice and research of manufacture is ahead of the theory covering their action, and there is no one test that will give a definite and comparative figure as to the efficiency of a product for every use. However, as would be expected, all of this research and the many papers published along these lines have given us a much better understanding of the whole subject of detergents and the inter-relation of surface and interfacial tension, Brownian movement, emulsification, electrical charges, etc., etc.

The price factor in the introduction of any new product is very important. Soap is relatively low in cost, on the basis of results where it can be used, as compared to practically all of the new synthetic products. Also, as most chemical manufacturers realize, the textile and laundry markets, are low-priced markets. Unfortunately, within recent years the one branch of the textile industry (silk) that could afford to use the higher-priced products has suffered such reverses and competition that it is now in many cases in worse financial condition than some other branches of the industry. On the other hand, many of the uses outside of the textile and laundry field can afford higher prices, where the results warrant, and even in the textile industry, sufficiently improved results almost always lead to the use of the new product by some of the more progressive plants.

Styles in Detergents

APPARENTLY there are styles in detergent research, just as there are in clothes, automobiles and most other things. For many years, the sulfonated oils were the style in detergent research, then came a group of soap and sulfonated oil-solvent mixtures, etc. The early success of some of the aromatic compounds at a somewhat later date led the style in this direction. More recently it has turned to the higher fatty and some other alcohols, condensation and amino compounds, etc. There are more patent applications being filed in the wetting and detergent field today than ever before and the end is not yet in sight. Perhaps some day we may find the product which all of the researchers are looking for. — something that will be cheaper than soap and alkali mixtures, and of universal application.

The literature on the subject is voluminous, and the patents even more so. A complete survey of the patents in this field would require months of search and study. Perhaps this is one of the reasons why there are so many apparent patent infringements, especially as the validity of very few of the existing United States detergent patents has been sustained in the courts. Also, certain of the early United States patents have expired and some alert chemical manufacturers are now marketing some excellent products manufactured by the processes covered by these early patents.

Many American chemical manufacturers are not very familiar with the status of foreign patents in the United States and do not understand the value of certain formation regarding these patents to them. They often ask, "Can I manufacture in the United States the product covered by a British or French patent?" The answer to this question depends entirely upon whether the inventor has applied for a patent in the United States.

The patent laws of the different countries vary widely and this is not the place to consider all of these variations in detail, even if the space were available. For our purpose, it is sufficient to point out that the granting of a foreign patent gives the inventor no patent protection in the United States and unless the inventor applies for the United States patent within one year, he cannot secure a valid United States patent at a later date.

French patents are granted very quickly, sometimes on the day of application, of course without any search, such as is made by the United States Patent Office. Many English and German patents also appear to be granted more promptly than is possible in the United States, where it is not unusual for several years to elapse before the patent application is granted. Obviously then, the French and some other foreign patents often give considerable advance information regarding what we may expect in later United States patents. But it does not follow that the corresponding patent application will be filed here, that the same broad patent will be granted in the United States in the same form in which it was granted abroad, or that the United States patent will be proved valid in the courts even if it be granted. In fact a number of shrewd American manufacturers have made some nice profits by carefully watching foreign patents for ideas, methods, etc., and then taking up the manufacture of those products of special interest to them. Even when a United States patent is allowed, it is surprising how seldom infringement cases get into court. However, this does not mean that patent infringement is safe. On the other hand, many of the patents allowed in France, England, Germany, etc., are not applied for here, the application is refused, or the claims so limited, as compared to those allowed abroad, that it may be possible to manufacture the same or a similar product, even though a United States patent is allowed.

Sulfonated Oils and Mixtures

AND now that we have considered a few of the generalities of these products, we will consider some of the more recent patents in these fields. So many interesting products have been patented recently that it is really difficult to know just where to start but one place is about as good as another.

so we will consider the developments in the sulfonated oil field first.

Although sulfonated castor oil is now more widely used than any other, and especially since the recent price increases on olive oil, sulfonated olive oil was actually in use for more than twenty-five years as a mordant for Turkey red before sulfonated castor oil first appeared on the market in England and France, in 1876. Sulfonated olive oil was also used as a mordant for the new "aniline" dyes in the 60's, as well as in printing alizarine. All of these early dyes belonged to the basic classification and had no affinity for cotton and most other cellulosic fibers except when mordanted, as with the old oil mordant. Sulfonated castor oil had been in use in certain plants, in secret processes, for some time, perhaps several years, before it was placed on the market, but it did not come into very wide use until during the early 80's.

As previously mentioned, the sulfonated oils were pretty well investigated by the methods then available before the newer synthetic products came into such wide fashion. They then went out of style, and still remain so, but undoubtedly there will still be plenty of future developments in this field. The manufacture of the more common sulfonated oils does not require a very elaborate plant and the process of sulfonation is so old that it is now generally and widely known. As a whole, the present products are far superior to those available, say, twenty years ago. Keen competition for this business in the textile and leather industries, the largest consumers, has aided considerably in this direction.

With the success of sulfonated olive and castor oils, the action of sulfuric acid on many other oils was investigated. In fact, prior to 1834, Fremy made a considerable investigation along this line. Today we have a wide variety of sulfonated oils on the market, as well as many oil mixtures, all of which find many uses, but mostly in the textile and leather industry. Perhaps the most important modern developments in this field have been in connection with the more uniform and complete sulfonation of the oil, better temperature control during sulfonation, better removal of the unsulfonated oil, free acid, and sodium sulfate, and the attainment of much higher degrees of sulfonation. Many patents have been granted covering the addition of certain dehydrating agents, such as acetic anhydride and phosphorus trichloride, to the reaction mixture, and some interesting results have been obtained in this way. Other patents have covered the use of certain solvents in sulfonating, and the addition of other products, often aromatic compounds, to the oil before sulfonating. Many of the latter products have increased resistance to hard water.

Most readers are already acquainted with the newer more highly sulfonated oils, their properties and uses. As a group, they have better resistance to hard water and acids in solution. These highly sulfonated oils, such as some of the Prestabit oils, were originally imported, but products which are at least very similar are now produced in the United States. As a whole, the acceptance and use of these interesting products has been rather disappointing and they have not come into as wide use as was anticipated when they first appeared on the market.

As a whole, the sulfonated oils lack the detergent properties of soaps, but have a decided advantage for many purposes on account of their increased resistance to hard water and acids, which permits some of these products to be used in acid dye baths, for wool, silk, etc. They are also widely used as softeners in textile finishing. Their value in this connection is at least partly due to the substantivity of many of these oils, which is far greater than that of most soaps, but not equal to that of lecithin. They are no longer used as mordants in the United States, but are still widely used for this purpose in the Far East, particularly in Java and India.

Many sulfonated oils and related products are good "blenders," especially in the presence of alcohols and glycols, and have found many and varied uses in this way. Some years ago, about the time of the introduction of the first of the synthetic detergents, a number of sulfonated oil-solvent mixtures were offered for wool scouring and many other purposes. As a whole, they were not very successful and most of them have disappeared from the market, except for special purposes. More recently, some of the more highly sulfonated oils have found use in this way in some of the mercerizing assistants; at least some of which have proven quite useful.

Ten or fifteen years ago, when the newer synthetic products were just coming into fashion, fully half of the patents covering wetting and emulsifying agents, and their uses, were in some way related to the sulfonated oils, etc. It is not entirely impossible that some day we may see a swing of styles back into the field of oils. More or less recently, certain manufacturers have investigated the properties of some of the "phosphorized" oils, prepared in somewhat the same manner as the sulfonated oils, but with phosphoric acid instead of sulfuric.

Recent Patents

ACCORDING to German Patent No. 640,791, January 15, 1937, to the Chemische Fabrik Stockhausen & Cie., a product with properties similar to those of Turkey-red oil is obtained by treating linseed oil, linseed oil fatty acids, or mixtures of these, with chlorine until only a part of the double bonds in the oil are saturated, and then with concentrated sulfuric acid in the presence of an indifferent solvent.

The Society of Chemical Industry of Basle, in German Patent No. 645,608, June 9, 1937, covers the production of sulfuric acid esters of castor oil and ricinoleic acid, obtained by treating the oil or acid with the addition product of sulfur trioxide and tertiary organic bases in the presence of an excess of the

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Ten Billion

A short survey of the world's per capita soap consumption, total consumption and soap using trends of the leading nations

IF the consumption of soap per person is a true indication of the cleanliness of the people of any country, then Americans stand at the head of the procession. However, they are not as far ahead of the countries of Northern Europe in this matter of cleanliness as some flag-waving patriots would have us believe. For each American, 25 pounds of soap per year are used. Little Holland is a close second with 24 pounds, Denmark and Canada right behind with 22 pounds each. Germany next with 21 pounds, followed by England and France with 20 pounds each. A study of available data quite definitely establishes the United States in first position,—but only by a neck. The same data places China far down at the bottom of the list as the world's smallest consumer of soap per capita,—an estimated yearly consumption per person of only two ounces. In between these limits, stand most of the leading nations of the world.

In all, the civilized world produces and consumes something over *ten billion* pounds of soap per year. Of this, the United States manufactures and uses about one-third. This world soap output of ten billion pounds is consumed by approximately one-and-a-half billion people, making up the soap using population of the world,—an average per capita consumption for the entire globe of 6.6 pounds. Of course, these figures are approximations, but they give what appears to be a fairly accurate picture of the situation.

The tonnage of soap consumption of the United States is far and away the largest in the world, exceeding three billion pounds. This consumption is distributed among 120,000,000 people, embracing all levels of the population,—and uses for all purposes to which soap may be put. The resultant high per capita figure of 25 pounds is quite remarkable when it is considered that it represents such a large population. Netherlands which ranks second with 24 pounds, includes a total population of only eight-and-a-half million, and Denmark with 22 pounds only three-and-a-half million.

China is the smallest per capita soap consumer among the civilized nations with an annual consumption of two ounces per person, as compared with 25 pounds per person in the U. S.

Pounds of Soap!

The figures reveal some interesting features of general world soap consumption. Taken as a whole, laundry soap,—or at least, soaps which are classed as laundry soaps in the United States, that is, brown and yellow soaps containing grease, rosin, etc.—represents about 92 per cent of the world's soap consumption. The average for toilet soap throughout the world is about 8 per cent. In the United States, toilet soaps, including shaving and other soap specialties used on the body, is approximately 12 per cent of the total, about 85 per cent is laundry and industrial soaps, and 3 per cent is miscellaneous.

In order to give as accurate a picture as possible of the variations in soap consumption from country to country, numerous sources of information were investigated. Mostly, figures were obtained from records of consulates for the different countries. Some figures were obtained from the records of the Chemical Division of the U. S. Department of Commerce, and from the Bureau of Agricultural Economics of the U. S. Department of Agriculture. Others came from the Bureau of the Census, the Association of American Soap and Glycerine Producers, and from the records of individual companies. From this conglomerate mass, — at times showing figures at considerable variance,—a general picture of soap consumption has been drawn.—and the table given herewith, showing the per capita consumption of many of the leading nations, has been compiled.

Among the leading European nations, the differences in per capita consumption from one country to another are comparatively small, except in the case of Italy, which is considerably below the average. Holland with 24 pounds, Germany with 21 pounds, and England and France with 20 pounds show a comparatively narrow spread. The average for the northern European countries is around 22 pounds. In sharp contrast to this is the Italian figure of 9.5 pounds. Spain, of course, is out of the picture temporarily, but it is believed that it was well under the Italian figure prior to the Spanish Civil War.

Among the Latin - American countries, Cuba is far ahead in per capita soap consumption with 19 pounds. Following closely together, but well behind Cuba, are Peru, Chile, and Brazil in that order, with Mexico, Argentina, and Colombia next in line. The highest of the South American republics is Peru with 7.8 pounds and the lowest Ecuador with 2.1 pounds. In Cuba, over 95 per cent of the soap consumed is yellow or brown soap of the laundry type. In the countries of South and Central America, even a larger percentage is indicated as of the laundry type, with the demand for toilet soaps very limited and confined mostly to the more well-to-do classes.

During the past seven or eight years, the Latin-American countries have shown great strides toward self-sufficiency in soap production. In all cases, soap imports have been cut down sharply and domestic production has been encouraged by import duties and other means. Although in South America, soap production methods on the whole are not modern, steady progress is being made with consequent improvement in the quality of the finished soaps. In Cuba, progress has been especially marked. Where a few years back, some 22,000,000 pounds of soaps were imported annually, today these imports average less than two million pounds per year.

In the cases of British India and China, there are two rather contrasting situations. Technical progress in soap manufacture in India is making large strides. Production of soap in India is expanding rapidly, and the consumption is increasing. Native soap manufacturers are far more progressive than they were some years back. An active associa-

Soap Consumption

	Per Capita Consumption in Pounds	Population	Consumption in Pounds
United States	25	120,000,000	3,250,000,000
Netherlands	24	8,500,000	212,000,000
Denmark	22	3,500,000	77,000,000
Canada	22	10,000,000	220,000,000
Germany	21	65,000,000	1,350,000,000
United Kingdom	20	45,000,000	900,000,000
France	20	42,000,000	840,000,000
Cuba	19	3,700,000	70,000,000
Sweden	19	6,300,000	120,000,000
Italy	9.5	42,000,000	400,000,000
Peru	7.8	4,600,000	36,000,000
Chile	7.7	3,800,000	30,000,000
Japan	7	65,000,000	460,000,000
Brazil	6.8	31,000,000	211,000,000
Soviet Russia	5.7	175,000,000	1,000,000,000
Mexico	5	18,000,000	90,000,000
Argentina	4.5	8,600,000	39,000,000
Roumania	4.5	20,000,000	90,000,000
Colombia	3.5	6,000,000	21,000,000
Ecuador	2.1	2,000,000	4,200,000
British India	4 ozs.	360,000,000	90,000,000
China	2 ozs.	320,000,000	40,000,000

The cleanliness of the people of Holland is traditional. The Netherlands are a close second to the U. S. in per capita soap consumption with a figure of 24 pounds per year.

tion of soap manufacturers is doing its part to make India "soap conscious." While the per capita soap consumption there is very small,—four ounces,—the next decade is certainly going to see a marked expansion in its use, and in its manufacture by native companies. In China, progress in soap consumption has been slow for many years owing principally to the abject poverty of the great mass of the people. Naturally, it has been difficult to interest a hungry people in cleanliness.

That under the present regime in China an increase in the use of soap will come, appears to be agreed, but it will be slow. If the sphere of Japanese influence in China is expanded, it will unquestionably mean a more rapid expansion in soap production and consumption. In Japan, incidentally, the rise of soap consumption has been rapid during the past decade. Not so many years ago, the per capita use of soap there was not much in excess of that in China. But through the activities of Japanese soap manufacturers and the fish oil industry, production has been increased so that consumption today is seven pounds per capita.

In the field of soap production and consumption, Soviet Russia is considerable of a question mark. Back in 1934, the published figure for Russian soap production was 460,000 tons. Based on a successful completion of the second five-year plan, total soap production for all of Russia was to have reached 1,000,000 tons per year by 1937. Quite obviously, this large tonnage has not been reached, or even approached, or we should have heard much about it. Exact data from representatives of the Soviet in New York are not available. Consequently, any figure taken as the current soap production of Russia must have much uncertainty about it. Based on such information as is available, both hearsay and in the files, a round figure of 500,000 tons has been taken as the current output.

This figure is so far ahead of the soap production of Russia back in the Czarist days that it represents a remarkable expansion in the use of soap throughout the Soviet. The determined drive,—both in the production of fats and of soap,—to give the Soviet a self-sufficient soap industry and to push up the per capita consumption of soap as one of the factors in improved living conditions, continues. The per capita soap consumption of Russia today is close to six pounds. Twenty years ago, it was under two pounds. In 1920, shortly after the revolution when chaos ruled industrial Russia, the total soap output of the entire nation was less than 15 million pounds, and soap was practically unobtainable by the mass of the people.

THE COLGATE CLOCK . . .

Familiar Land Mark of New York Harbor

THE world's largest clock is not Big Ben of London, but the Colgate Clock of New York Harbor. It is located on top the Colgate-Palmolive-Peet Co. building in Jersey City, N. J., facing the New York waterfront, and is a prominent landmark that incoming passengers on the ocean liners see shortly after the Statue of Liberty has passed astern. It also serves in lieu of a pocket timepiece for thousands of New Jersey commuters and New Yorkers with offices facing the Hudson.

That the clock is much used by the public is indicated by the heavy "fan mail" that comes into the Colgate offices when it occasionally stops. As many as one hundred calls a day have been received at the soap company offices on such occasions, each caller apparently thinking himself the first to inform the firm that their clock has stopped. At such times the head clock man, C. C. Schwarz, must work at top speed to get the damage repaired and the clock back in operation again. Fortunately stoppages have been rare in the thirteen years since the clock was first erected, every precaution being taken to avert this. Instead of operating direct from the plant generator power it is run on a battery that will keep the clock moving four to five hours in event of power plant trouble.

One would hardly expect a clock with hands and movements weighing over four tons to be correct within two or three seconds for a week or ten days, yet such is the case. A master clock, located in a building adjacent to the big clock serves as a control. This small clock has a pendulum that contacts a mercury switch with the end of each three second swing, causing the mercury in the tube to tilt and break a contact. As the pendulum completes its swing and recovery, spring tension on the tube forces it back to the level position where the liquid again makes the contact. This make and break contact acts on the big clock, causing a magnetic clutch to release the escapement shaft and move the hands at the rate of 1½ inches every three

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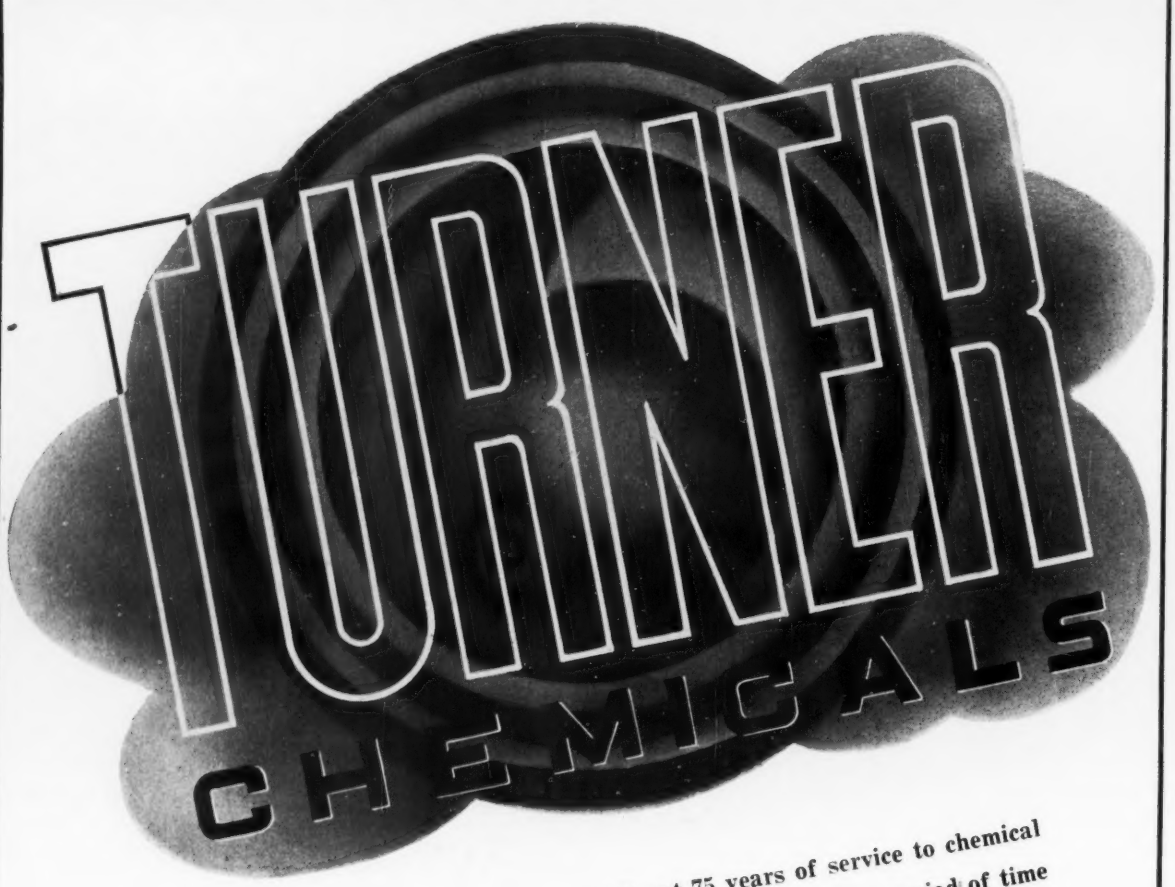

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NEWS . . . . . .

Form Valley Soap Co.

Valley Soap Co., Cincinnati, O., has been organized recently to engage in the manufacture of soap products. Agnes Geiger, Gordon D. Wilson, and Harry H. Shafer, head the new firm, with headquarters in the Ingalls Building.

Lever Merger Plan Approved

At a special meeting of the stockholders of Unilever, Ltd., held recently in London, the proposed amalgamation with Lever Brothers, Ltd., was approved. At the special meeting held at Port Sunlight immediately after the Unilever meetings, Lever shareholders also approved the proposals for amalgamation. Francis D'Arcy Cooper, who presided at the meeting, said the amalgamation proposal had been presented to the Court for sanction. The resolution submitted to shareholders, he added, would not come into operation until the Court had given its sanction and the scheme for amalgamation itself had become operative. This will not be much before the end of 1937.

Mid-West Soap Hearings

Hearings were held recently in the Federal Building, Indianapolis, before trial examiner Robert S. Hall in the U. S. Federal Trade Commission action against Mid-West Soap Co., Indianapolis, charging unfair competition in the sale of toilet soap.

Finkel with Olive Oil Soap

Daniel Finkel, formerly connected with the chemical laboratories and technical sales force of the New Jersey Division of Armour Soap Works, has joined the staff of Olive Oil Soap Co. and Wollen Chemical & Supply Co., Paterson, N. J. He will serve as consultant and special field representative on soaps and allied products associated with the textile industry throughout the metropolitan territory.

P. C. Magnus Aids Drive

Percy C. Magnus, head of Magnus, Mabee & Reynard Inc., New York perfuming materials house,

Perey C. Magnus

president of the N. Y. Board of Trade, is the new chairman of the commerce section of the United Hospital campaign.

Canadian Soap Mgr. Dies

Jarvis William Arnold, 67, for twenty years manager of John Taylor and Company, soap manufacturers, Montreal, Canada, and for the past six years partner with his son in the firm of P. K. Douglas Imports Company, Ltd., died at his residence in Verdum, Que., Saturday, Oct. 2. Mr. Arnold was a native of Portage, New Brunswick. He was a Mason and a Kiwani.

P. & G. Names Pedlar & Ryan

Pedlar & Ryan Co., New York, has been named by Procter & Gamble Co., to handle advertising of "Chipso."

Los Angeles Soap Appoints

Los Angeles Soap Co., Los Angeles, has recently appointed Jerry Coleman as assistant advertising manager. Robert C. Temple is the new sales manager of Cosray Cosmetics, a division of the same company.

P. & G. Soap Sculpture Contest

The 14th annual soap sculpture contest, sponsored by Procter & Gamble Co., closed recently with the awarding of $2,000 in prizes. The winning models were on display in Franklin Institute, Philadelphia, up until the end of October. A new contest for the coming year has been announced, with entries to close on May 15, 1938.

Herson & Co. Changes Name

Thomas Herson & Co., New Bedford, Mass., fat renderer, has given a new name to its soap, soap powder, fertilizer, insecticide and heavy chemical business—the Allen Herson Co. The rendering business will still be conducted under the original name.

Committee D-12 Meets

The fall meeting of Committee D-12 of the American Society for Testing Materials was held at the Hotel New Yorker, New York, October 19, with Harry P. Trevithick, chairman of the committee, presiding at the sessions of the full committee. A number of new developments were reported at the conclusion of the meeting in the committee's program of adoption of standard specifications for soaps and detergents. New specifications were recommended for floating soap and for ordinary bar laundry soap. A new basis of payment was also suggested in the specification for milled toilet soap, although this change was left as tenta-

tive. New tentative methods of analysis were adopted for sulfonated oils, and new methods were also recommended for the screen testing of soap, as well as for the analysis of potash and soda in soap. Methods of soap analysis, which had previously been adopted as tentative, were recommended to be advanced to standard. A number of new definitions of soap terminology were also presented to the meeting for comment and eventual approval.

Orbis Takes Over Horner

Orbis Products Corp., New York, has just taken over ownership of James B. Horner & Co., New York essential oil house, and will continue to operate the Horner firm as a separate entity. Arthur J. Petrie who recently joined Orbis after leaving Kolynos Co., will have active direction of the Horner concern under the new set-up, serving as treasurer. A. P. Hafner will be president and D. H. Fulling, secretary. The firm of James B. Horner & Co. was founded in 1865 by Major James B. Horner, who served as active head of the business until his death in 1914. The firm was then taken over by Joseph Mathias who has just sold his interest to Orbis and has now retired.

Leverhulme Bebington Mayor

Bebington, England, which has given its name to a large slice of the Mersey foreshore, was made a municipal borough about Oct. 1. Lord Leverhulme, the soap magnate, is the first mayor of the new borough. At a civic ceremony, he received the charter of incorporation from Brigadier-General Sir William Bromley-Davenport, Lord Lieutenant of Cheshire County, in the presence of the mayors of the neighboring cities and boroughs. Lord Leverhulme presided over the inaugural luncheon which followed.

Curran Moves Offices

The offices of Curran Corp., formerly located at the Somerville Mfg. plant, have been moved to the Dowling Bldg., 6 Pleasant St., Malden, Mass.

German Soap Outlook

The German soap industry over the course of the past three years has been increasingly hampered by shortages of imported vegetable oils, necessitating the use of various substitutes, including fillers, particularly sodium silicate, for spreading oil supplies. Therefore, while total output of soap doubtless has increased, the standard of quality of the production has been lowered. An outstanding development of the soap industry in recent years has been the marked gains in production of soap powder, scouring agents, etc., reflecting their rapidly increased popularity for household use. A further notable development in 1936 was the intensified effort for producing synthetic fatty acid from paraffin hydrocarbons, for lessening the industry's dependence upon imported oils and fats, as represented by the investment of considerable sums in large-scale synthetic fatty - acid experimental plants. Germany's foreign trade in soap and detergents has undergone markedly unfavorable development since the 1929-31 peak, as shown by the following tabulation:

GERMANY'S EXPORTS OF SOAPS AND DETERGENTS

Year	*Quantity Metric Tons*	*Value Marks*
1929	20,216	25,916,000
1930	22,153	25,902,000
1931	21,813	25,850,000
1932	17,787	19,895,000
1933	14,421	15,058,000
1934	12,801	12,880,000
1935	10,303	10,292,000
1936	9,058	10,393,000

Detroit Rex in New Plant

Detroit Rex Products Co., Detroit, manufacturer of solvents, cleansers and degreasing machinery, has just completed a large modern manufacturing plant at 13005 Hillview Avenue which will give them approximately thirty thousand square feet of additional floor space. This is the second time within the period of a year that manufacturing facilities have been enlarged according to R. A. Emmett, president of the company. The building is all steel and brick construction and is completely fireproof. The entire project represents an investment of approximately $100,000 exclusive of equipment.

In line with the general expansion program recently inaugurated, the company has opened a branch office in the Provident Bank Building in Cincinnati. This office will serve the lower Ohio and Indiana areas as well as the northern section of Kentucky. A warehouse at Lockland, Ohio, will carry stocks of solvents so that immediate deliveries can be made to all points in this territory.

Soap Employment Index

The index of employment in the soap industry for August, 1937, compiled by the U. S. Dept. of Labor, registered 101.7 as compared with 102.4 in July, 101.7 in August, 1936, and 100 as the three-year average for the period 1923-1925. The pay roll index for August, 1937, was 117.0, as compared with 116.9 in July and 100.6 in August, 1936.

Diehl Wins Slogan Contest

"Chemical Research Creates Industries" is the winning slogan in the contest conducted by the Exposition of Chemical Industries to determine a slogan for the 1938 chemical show. Norman E. Diehl, assistant division purchasing agent of E. I. duPont de Nemours & Co., offered the winning slogan, for which he will receive a prize of $250. This will be presented at the exposition on the evening of Monday, December 6. The exposition will start that day and will continue through the entire week at the Grand Central Palace, New York.

Bulgarian Soap Industry Gains

The total domestic output of soap in Bulgaria in 1936 was approximately 8850 tons as compared with some 2500 tons produced annually prior to the World War. At that time most soap for domestic use was imported from abroad. Bulgaria now does considerable exporting of soap.

Snell Talks on Detergency

Foster Dee Snell addressed the St. Louis Section and Kansas City Section of the American Chemical Society on October 4th and 5th respectively. His subject was "Some Factors in Detergency."

Lever Names R. F. Elder

Robert F. Elder has been appointed director of advertising research for Lever Bros. Co., Cambridge, Mass. He formerly held the position of associate professor of marketing at the Massachusetts Institute of Technology.

Import Opportunity

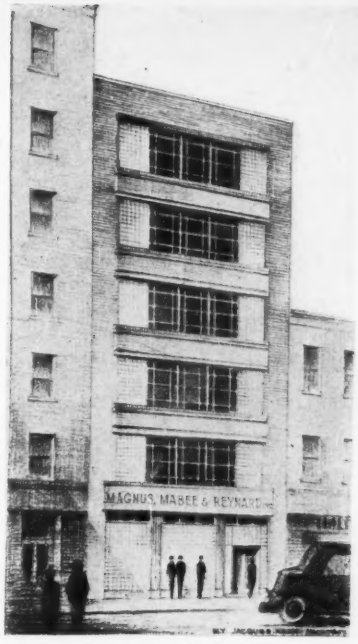
A firm in Alexandria, Egypt, is seeking to contact an American concern interested in importing castile soap and olive oil. Interested parties may communicate through the U. S. Bureau of Foreign & Domestic Commerce, mentioning Import Inquiry No. 211.

Hackett Agency for Marchand

M. H. Hackett, Inc., New York, has been appointed advertising agency for Charles Marchand Co., New York, manufacturers of "Marchand's" hair wash and castile shampoo.

New Quarters for Magnus

An ultra-modern plant — the first of its kind in New York City— is being constructed for Magnus, Mabee & Reynard, Inc., New York essential oil house, at 16 Debrosses St. to 119-121 Watt St., in the heart of New York's new drug, chemical and pharmaceutical center adjacent to the Holland Tunnel. The building, six stories and a specially conditioned basement for the storage of bulk essential oils, will be of approximately 60,000 sq. ft. and will front on both Debrosses and Watt Streets. Over-all facades of translucent "glass-brick" rising the full six stories of the building will make this the first all "glass-brick" industrial plant in New York City. Magnus, Mabee and Reynard, Inc. will occupy the building in its entirety.



New Magnus Headquarters

Equipped with the most modern equipment for research, every facility for the testing of essential oils, flavors and perfume oils from the elementary stages to actual usage in finished products will be available through complete laboratory resources.

The old Fulton Street district, once the drug and pharmaceutical center of New York, will lose one of its oldest tenants when Magnus, Mabee & Reynard, Inc. occupies its modern new building. The firm, founded by P. C. Magnus, Sr., now deceased, was founded in 1895. In 1901 it occupied the five story building at 257 Pearl Street. In 1922 Magnus took over the adjoining five story building at 32 Cliff Street, both of which are now occupied by the company. The new and modern building which will be ready about April 15, 1938, offers approximately 60 per cent more space than the company's present quarters.

Pepsodent to Build

Pepsodent Co. of Canada, Ltd., 191 George Street, Toronto, Ont., Canada, is planning to construct a new $50,000 factory at Vancouver, B. C.

New Houghton Cleaner

E. F. Houghton & Co., Philadelphia, have just added a new item to their line of metal and maintenance cleaners, — "Houghto-Clean No. 180." It is a mildly abrasive powder, said to be free-rinsing and non-corrosive.

Condemn "Olivo" Tonic

A shipment of "Olivo" hair tonic and "Olivo" hair oil made by Zala Perfumery Co., Philadelphia, has recently been condemned and destroyed by the U. S. Food and Drug Administration because of false statements on labels. The "Olivo" hair tonic was represented to contain olive oil, and to be an Italian article and a food for the scalp; whereas it did not contain any olive oil and it was not a food for the scalp. Moreover, the label failed to state the proportion of alcohol that it contained. The "Olivo" hair oil was represented to be an olive-oil preparation and an Italian article; whereas it was not an olive-oil preparation and it was not an Italian article. Bottle labels and wrappers also bore false and fraudulent curative or therapeutic claims.

New Soap Auto Washing System

A new automobile washing device using soap solution has been developed in England. The method known as the Kerrick Kleaner, depends for its operation upon an atomized spray of hot water and soap at a uniformly safe temperature and with variable pressures to suit the job in hand. The plant consists of a solution tank, a set of specially designed pumps and a continuous coil housed in a heating chamber, the whole forming a compact group mounted on a single base, which may in turn be made portable.

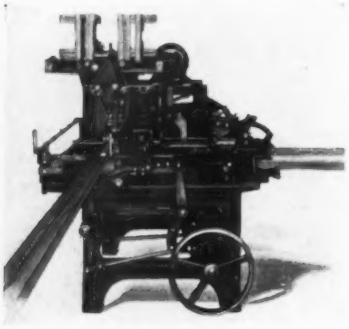
One gallon of soap solution is used to 60 gallons of water. One of the pumps measures and delivers the proper amount of solution into the top of the continuous coil, whereupon the soap is broken up into microscopic particles by turbulence, pressure, and heat within the coil. On leaving the bottom tank of the

Soap Makers Are "On Their Toes"

When it comes to taking advantage of modern improvements, we have noticed that the soap industry is usually "right there."

It is significant, therefore, that *practically all the leading toilet soap manufacturers in the country are now using our Model S Wrapping Machine.*

Consider the savings and selling advantages offered by a machine that:— Wraps 150 cakes per minute; requires but one operator; uses transparent cellulose, glassine, and many other types of wrapping material; may be adapted to handle many different sizes; operates with an economy and efficiency heretofore unmatched by any soap wrapper.



The Model S may be equipped to insert cardboard or circular between inner and outer wrapper, if desired. Producing uniformly neat, secure, and distinctive wrapping, this machine is also a sales-help . . . its wrapping indicates the quality that women demand.

Special Machines

In addition to the widely used Model S, we have built special machines to meet special requirements. Our long experience in serving soap manufacturers and our complete facilities should prove valuable to you in solving your packaging problems. Consult our nearest office.

PACKAGE MACHINERY COMPANY, Springfield, Mass.

NEW YORK CHICAGO CLEVELAND LOS ANGELES
Peterborough, England: Baker Perkins, Ltd. Melbourne, Australia: Baker Perkins Pty, Ltd.
Mexico, D. F., Apartado 2303 Buenos Aires: Argentina: David H. Orton, Maipu 231

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

coil, the solution passes into a thermostat which actuates a fuel regulator valve, so that there is an automatic control of the amount of heat from the burner which heats the coil. The thermostat may be regulated manually to change temperature quickly and automatically maintain a constant pressure.

The solution from the coil and from the second section of the pump passes into a common discharge line and emerges from restricted nozzles in the form of a fine spray. This spray, incidentally, while being effective in removing grease from the chassis, is harmless to the hands. As the process relies on a soap solution for its effectiveness, there is little fear of damage being caused to the paintwork of the vehicle.

Starting from cold, the machine is ready for use in less than five minutes. The washer can be utilized for all types of cleaning, such as parts, motors, flushing gear boxes and back axles *in situ*, and even floors and walls of buildings. The apparatus is being marketed by the Barton Motor Company, Ltd., Hyde Park Corner, Plymouth.

Bourjois, Inc., New York, have just added "Shav-Pak" to their line of men's toiletries. A Bakelite molded container holds a generous cake of "Mansfield" shaving soap, the container being equipped with a removable lid which snaps into shape when the package is not in use. The outer surface of the container is stippled to provide an easy grip.

Manufacture Silk Soap Abroad

Use of low grade silk waste in the production of soap is reported in Germany, France, Switzerland, and Czecho-Slovakia. Silk soap containing five per cent of silk waste as an ingredient is being manufactured in these countries for both toilet and household use. It is stated that it can be prepared in powder, cream, and liquid form and that it may be adapted to industrial uses. Addition of the silk waste as an ingredient is said not to add appreciably to the cost of production.

Restrain Babi-Glo Co.

An order to cease and desist from certain unfair methods of competition in the sale of soaps has been issued against Babi-Glo Co., New York, by the U. S. Federal Trade Commission. The company is restrained from using the words "olive" or "olive oil" in a deceptive manner to describe its products when the soaps so described are not composed entirely of olive oil. The order also restricts the company from use of such expressions as "Old Madrid", "Old Seville", "Florentine", and other similar expressions when the soaps so described are not products imported from Italy or Spain.

Fire at Swift Plant

The block-long, four story building owned by Swift & Company at Exchange and Packers Avenues in the Chicago stock yards district was damaged to the extent of $150,000 on September 30th by fire of undetermined origin. The third and fourth floors of the building were used for storage of soap and by-products.

Plan Chicago Xmas Party

Walter H. Jelly and Arthur F. Frantz, co-chairmen of the entertainment committee for the Chicago Perfumery, Soap and Extract Association announce that the annual Christmas party will be held Thursday, December 9th at the Knickerbocker Hotel. In addition to an unusually fine floor show and orchestra, plans are being made for one of the best souvenir bags in the history of the party. Notices and forms for ticket reservations will be mailed to the members at an early date.

Launch "Rinso" Campaign

The "Rinso-Sanforizing" campaign, publicizing the establishment of a "Rinso" Wash-Testing Laboratory which, in co-operation with the Sanforizing-Service will issue to textile manufacturers certificates for fabrics, was launched at a luncheon given by Sanforizing-Service in Manchester, England recently. The scheme was outlined by Lord Leverhulme of Lever Bros.

Wants Soap Agency

A concern in Panama is interested in establishing an agency arrangement for sale of laundry soap in one-pound cakes. Interested parties may secure further particulars through the U. S. Bureau of Foreign & Domestic Commerce, Washington, D. C., inquiry 3948.

Cedene

A fresh new odor for laundry soap, soap powder, cleansers, etc. Very effective. Inexpensive.

Crataegone

CRYST

Similar to anisic aldehyde but less expensive. Absolutely stable in soaps. Excellent fixative.

Bergamot

SYNTHETIC

High ester content. Economical in price. Uniform quality. Important in view of the situation in natural bergamot.

Schimmel & Co., Inc.

601 West 26th Street, New York, N. Y.

BOSTON CHICAGO LOS ANGELES TORONTO

Lever Loses "Rinso" Case

The U. S. Supreme Court has just refused to review the patent case in which Procter & Gamble Co. and Colgate-Palmolive-Peet Co. successfully charged Lever Bros. Co. with infringement of their patent rights in the manufacture of "Rinso." The case was originally tried in an Indiana district court, and the decision there was that the Lamont Patent, owned jointly by Procter & Gamble and Colgate, had not been infringed by Lever Bros. This decision was subsequently reversed by the seventh circuit court of appeals which decided against Lever Bros. and directed an accounting for infringements covering a seven-year period. Lever Bros. sought review of this decision in the Supreme Court, contending that questions of inventorship should be decided by the court that heard the testimony of the original witnesses. It was declared that the circuit court arrived at its decision by examining a single sample of "Rinso" through a magnifying glass. No reason was given by the Supreme Court for refusing to review the case.

Chicago Association Meets

The Chicago Perfumery, Soap and Extract Association met at the Lake Shore Drive Hotel, Chicago, on October 8th. This was the first meeting of the association since the summer adjournment. A major portion of the time was given over to an analysis by John S. Hall, the association's attorney, of the legislative developments during the past three months.

Puhl Prods. Checks Claims

John Puhl Products Co., Chicago, selling "Little Bo-Peep," a laundry preparation, has just signed an agreement with the U. S. Federal Trade Commission under which it will stop advertising that its product contains "Oehme" or any other ingredient alleged to be found only in such product, or that "Oehme" or any other ingredient of the preparation possesses remarkable cleansing properties or is capable of doubling the cleaning power of the product. Other representations to be discontinued are that use of "Little Bo-Peep" in the laundering of hose will double its life, and that its use in the washing of blankets and woolens will prevent shrinkage.

Ratifies Whaling Agreement

The South African Government has now withdrawn its objection to ratifying the international whaling agreement, as a result of which South Africa automatically becomes one of the signatories. The agreement for the regulation of whaling in all waters was signed in London in June by representatives of the Governments of South Africa, United States, Argentina, Australia, Britain, Germany, New Zealand, Irish Free State, and Norway. A closed fishing season, stricter regulation of the size of whales caught, and prohibition of hunting in certain waters, are among the major provisions of the pact.

Felix Lowy Dies

Felix Lowy, for many years a prominent figure in the soap industry, died October 5th in Barnes Hospital, St. Louis, following a lung operation. Mr. Lowy began his business career with Palmolive Co. in 1903 and worked up to the position of vice-president. In 1933 he resigned from Colgate-Palmolive-Peet Co., successor to Palmolive Co., to become vice-president and general manager of Holeproof Hosiery Co. Surviving Mr. Lowy are his widow and two sons.

Seek American Toothpaste

A concern in London, England, is interested in the purchase of tubes of toothpaste of American manufacture. It is specified that these be in the low price range. Interested parties may communicate by addressing a reply to the U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C., mentioning inquiry No. 4377.

"Sugar" Steinberg and her "White King" dog attracted much attention at the recent San Francisco Food Show. Her demonstrations of washing doll clothes in the White King Soap Co. booth attracted greater crowds than were seen at any other booth in the show. She is shown here being entertained by Conrad Mitchell, Hollywood "Sound Box," who is showing her how he imitates a barking dog. In the background is the familiar cut out of the little girl and her white dog which White King uses for display.

HAPPY LANDING-SOAP COSTS!

YES SIR, some soap manufacturers are bringing down costs without sacrificing quality by using the new lower priced oils and P. Q. Silicate. They save money and make just as good soap—a well-made cake with firm, smooth texture or clear, smooth flakes.

If you investigate these new oils for your formulae, let us help you with information on how to incorporate the various P. Q. Silicates in the soap.

Clip the coupon for a comprehensive review of the use of silicate of soda in soaps.

P. Q. SILICATES FOR THE SOAPMAKER

Brand	K	N	U	C
Ratio $Na_2O:SiO_2$	1:2.84	1:3.22	1:2.44	1:2.00
Baumé	47°	41°	52°	59°

P. Q. SILICATES OF SODA

PHILADELPHIA QUARTZ CO.

PHILADELPHIA

General Offices and Laboratory: 125 S. Third St., Phila., Pa.
Chicago Sales Office: Engineering Bldg. Stocks in 60 cities.
Sold in Canada by National Silicates Ltd., Toronto, Ont.

Works: Anderson, Ind., Baltimore, Md., Chester, Pa., Buffalo, N. Y., Kansas City, Kans., Rahway, N. J., St. Louis, Mo., Utica, Ill.

ESTABLISHED 1831

Please send Bulletin No. 1, P.Q. Silicates of Soda in Soapmaking.

*Name*_____

*Address*_____

*City*_____ *State*_____

J

REG. U. S. PAT. OFF.

Contracts Awarded

Chicago Soap Awards

In a recent opening by the Chicago quartermaster Hunnewell Soap Co., Cincinnati, was awarded a contract on 30,000 cakes grit soap at 1.9 c. On 400,020 cakes laundry soap, Selmar Soap Co., Memphis, Tenn., bid 3.68c on 50,000 cakes and was accepted for 49,980 cakes.

Fort Mason Soap Awards

Colgate - Palmolive - Peet Co., Berkeley, Calif., was recently awarded a contract on a quantity of laundry soap for delivery to Fort Mason quartermaster, California, at 3.63c. Colgate also received the award on a quantity of laundry soap in wood cases at a price of 3.87c.

Chillicothe Laundry

Procter & Gamble Distributing Co., Cincinnati, has been awarded a contract on 2,000 lbs. laundry soap in a recent opening by U. S. Industrial Reformatory, Chillicothe, O., at a price of 8.57c. On 2,700 lbs. soda ash, Fry Bros. Co., Cincinnati, was awarded the contract at 2.15c, and on 900 lbs. laundry soda, they were awarded the contract at 2.12c per lb.

Philadelphia Soap Award

In a recent opening for delivery to the Philadelphia engineer, Crystal Soap & Chemical Co., Philadelphia, was awarded a contract on 1,500 lbs. grit soap at $8.43 per 100 lbs.

U. S. Marine Corps Awards

Fidelity Fire Protection Co., Philadelphia, was recently awarded a contract on 25 gals. of cleaning fluid at $1.05 per gal., for delivery to U. S. Marine Corps, Philadelphia.

Disinfectant Bid

Harley Soap Co., Philadelphia, was low bidder on 6,102 gals. disinfectant for delivery to U. S. Marine Corps., Philadelphia, in a recent opening, with a quotation of $1.065.

Crystal Soap Gets Award

In a recent opening by the Brooklyn U. S. Army Quartermaster, Crystal Soap & Chemical Co., Philadelphia, was awarded contracts on 2,000 lbs. rust preventive compound for Springfield Armory, and on 1,000 lbs. for Augusta Ordnance Depot. Prices quoted were 7.2c and 7.9c respectively.

Fort Mason Awards

On a quantity of flake naphthalene, Naphthalene Products Co., Birmingham, Ala., was awarded a contract at 7 4/9c in a recent opening by the quartermaster at Fort Mason, Calif. Colgate-Palmolive-Peet Co., Berkeley, Calif., was awarded the contract on a quantity of chip soap at 7.28c. On a quantity of powdered laundry soap, Hecker Products Corp., New York, was awarded the contract at a price of 3.75c. On a quantity of laundry soda, Henry C. Hacke, Los Angeles, was awarded the contract at 1.74c and on a quantity of laundry starch, John P. Lynch Co., Chicago, at 7.42c.

British Whalers Earn More

Two of the leading British Antarctic whaling companies, Viking Whaling and Vestfold Whaling, have recently declared substantially increased dividends. The companies are associated through an interest of the former in the latter. The Viking final dividend is of 5 per cent, with a bonus of 10 per cent, making 20 per cent for the year ending October 31. This compares with 15 per cent last year.

Vestfold, for the year ended July 31, has declared a final dividend of 5 per cent, with a bonus of 10 per cent. The total for the year is also 20 per cent, compared with 15 per cent for eight months to July 31, 1936. Viking also announces a return of capital of 10 shillings per share on the £1 preference and ordinary shares. The high yield is not surprising in view of the nature of the business, which in spite of drastically restricted whaling seasons, threatens to become one of diminishing returns unless it is found possible to increase the whale supply.

Malmstrom Names Agent

N. I. Malmstrom Co. of Brooklyn, producer of "Nimco" lanolin and wool grease, is now being represented in Chicago, Minneapolis and Kansas City by Thompson-Hayward Chemical Co. Stocks of "Nimco" lanolin and "Malmstrom" wool grease will be carried in all three cities by Thompson-Hayward who maintain offices in Chicago at 1838 West 38th St., in Minneapolis at 909 Second Street South, and in Kansas City at 29th & Southwest Boulevard. Mr. Malmstrom has just returned from an extended tour of Europe.

Florasynth Moves Chi. Office

Florasynth Laboratories, New York, have recently moved their Chicago offices from 605 W. Washington Blvd., to 564 W. Randolph St. The new offices are almost four times as large as the old quarters. This branch of the firm employs five salesmen covering the states of Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Indiana, and Michigan. Dr. William Lakritz, secretary of the company, is manager of the Chicago organization.

Wants Toilet Soaps

A concern in Manila, Philippine Islands, is interested in establishing an arrangement for purchase of or agency for sale of American toilet soaps. Interested parties may communicate through the U. S. Bureau of Foreign & Domestic Commerce, mentioning inquiry No. 4101.

New Waldorf Cosmetic Bar

Park & Tilford Co., New York, has opened a new cosmetic counter in the Waldorf-Astoria hotel. This counter will feature varied soaps, powders, perfumes, and other toilet articles.

BEFORE THEY RAISE THEIR UGLY HEADS

Banish BAD ODORS

with

BAD odors are your enemies! They frighten away prospective buyers and kill repeat orders. Why not take the lead and banish **them** before they banish **your** hopes of building volume sales? By applying the odor-destroying properties of NEUTROLEUM in the beginning you can do this easily and at little cost . . . and send your product off to a flying start with a pleasant fragrance!

NEUTROLEUM is a result of long and intensive research. It was created to provide the simplest, most effective and least expensive means of overpowering completely and permanently those unpleasant odors which characterize so many useful, every-day products. It works equally well in fly sprays and insecticides, waxes, polishes, naphthalene cleansers, para blocks, solvents, diluents, and many others. As a manufacturer of any one of these, you should try it; the results will amaze you.

If you prefer, send us an untreated sample of your product with a letter explaining your problem. We, in turn, will treat it with NEUTROLEUM and return it to you completely deodorized and with detailed recommendations for your future guidance. This service will be provided gratis to demonstrate how effectually NEUTROLEUM accomplishes its prescribed purpose. Why not take advantage of this offer . . . TODAY?

"Fragrance Creates Sales Appeal"

FRITZSCHE *Brothers, inc.*

816 WEST 8TH STREET LOS ANGELES, CAL.
Proprietors of PARFUMERIES de SEILLANS Seillans, France
FRITZSCHE BROTHERS, of Canada, Ltd., 77 79 Jarvis St., Toronto, Canada

PORT AUTHORITY COMMERCE BLDG.
76 NINTH AVENUE, NEW YORK, N. Y.
118 WEST OHIO ST. CHICAGO, ILL.

A *Fritzsche* PRODUCT for EVERY PURPOSE . . .

- **ESSENTIAL OILS**

  These basic materials are, as they should be, the finest that modern methods and scientific skill can produce—oils of the very highest purity and dependability.

- **AROMATIC CHEMICALS**

  Each item in this group represents a degree of purity and quality that assures finer aromatic effects **plus** the advantage of material economy.

- **FIXATIVES**

  We urge manufacturers to consult us in the selection of their fixatives. With many to choose from, there is always that one which will produce better results in a given case. Let us assist you in your choice.

- **BATH SALT PERFUMES**

  Combining perfume and color, our delightful Bath Perstels greatly simplify and facilitate the process of manufacture. Very economical. Send for details and complete list of blends.

- **DENTAL AND ORAL FLAVORS**

  The flavors in this group are of a special character, carefully blended to impart pleasant, clean, refreshing taste effects. Consult us for these or for the creation of exclusive flavor blends.

- **DEODORIZING COMPOUNDS**

  See our advertisement on page opposite. In addition to Neutroleum we offer a variety of other preparations for use in technical products. Let us assist you in making the proper selection.

- **INSECTICIDES AND DISINFECTANTS**

  Our Research Division has devoted much time to this phase of perfuming. All materials offered by us under this heading embody the latest scientific findings.

- **TOILET SOAP COMPOUNDS**

  A large group of perfumes especially prepared to meet the exacting requirements of soap manufacture. Exquisite scents at minimum cost. Send for particulars.

- **LIQUID SOAP AND SHAMPOO PERFUMES**

  These perfumes are highly soluble and mix readily with liquid soaps. Quantity required governed by cost limits and strength of odor desired.

- **SOAP COLORS**

  We can supply soap colors to produce any desired tint. For specific recommendations, send us description or sample of color to be matched.

- **ANTI-OXIDANTS**

  Highly important to the soap manufacturer are our newly developed preservatives for soaps, animal and vegetable fats and oils. Write us for full particulars regarding OXIDEX.

SEND FOR SAMPLES

Sterling Buying Macleans, Ltd.?

An official statement recently issued by H. G. L. Lazell, director and secretary of Macleans, Ltd., the big British manufacturing chemists specializing in toothpastes, tooth soaps, and disinfectants, referring to the report that Sterling Products, the American drug company, had made an offer of $15,000,000 for the privately-owned ordinary shares of Maclean, says: "The directors of Macleans are aware," stated Mr. Lazell, "that offers have from time to time been received by the ordinary shareholders from various quarters, but they are able to state that no agreement has been reached."

New Soap Buying Booklet

"Soap and Other Cleansing Agents" is the title of a new booklet just issued by the Household Finance Corp., Chicago. This is a new edition of their booklet which is a guide to the economic purchasing of soap and cleaning products by the general public, and one of a long series of booklets published by this company. It covers the composition, manufacture, and uses of various types of soaps, and tells what to look for and what to avoid in buying soap products. It was compiled under the direction of Mrs. Bernice Dodge, home economist. Copies may be secured by writing to the company at 919 N. Michigan Ave., Chicago.

Carbide Offers "Tergitol"

Carbide & Carbon Chemicals Corp., New York, has recently announced development of a new wetting agent "Tergitol." Dr. B. G. Wilkes of Mellon Institute, Pittsburgh, and Dr. J. N. Wichert of Carbide & Carbon described certain properties of the new material before the recent meeting of the American Chemical Society in Rochester.

Special Boat for Niger

The *Joseph Flint*, first of two vessels being built for United Africa Co., Unilever associate, for service in tropical waters, has just been launched at Leith, Scotland.

OIL BERGAMOT Artificial NORDA

AN artificial BERGAMOT which meets the most exacting requirements . . . in view of the present high price of the natural oil, BERGAMOT ARTIFICIAL NORDA offers a material saving in perfuming cost without sacrifice of quality . . . suitable for use in odors for fine toilet soaps, or other places where natural BERGAMOT is called for.

Ask NORDA for further details.

Norda

ESSENTIAL OIL and CHEMICAL COMPANY

Chicago Office
325 W. Huron St.

Los Angeles Office
685 Antonia Ave.

St. Paul Office
Pine and E. 3rd St.

Canadian Office
119 Adelaide St., W., Toronto

New York Office
601 West 26th St.

Southern Office
Candler Annex Bldg., Atlanta, Ga.

New Trade Marks

The following trade-marks were published in the October issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

POLKA DOT — This in solid letters describing soap. Filed by Gordon-Allen Ltd., Oakland, Calif., June 12, 1935. Claims use since Mar. 15, 1935.

SANDERMA—This in solid letters describing soap. Filed by Robinson Bros. & Co., Portland, Me., and Malden, Mass., June 21, 1937. Claims use since Jan. 25, 1902.

MIDWAY—This in solid letters describing polish and cleaner, dry cleaning fluid, dog soap, etc. Filed by Midway Chemical Co., Chicago, July 12, 1937. Claims use since June 30, 1925.

WALVET—This in solid letters superimposed on letter "V" describing cleaner. Filed by Cleveland Cleaner & Paste Co., Cleveland, O., July 30, 1937. Claims use since June 1, 1937.

MILLERINE—This in solid letters describing shampoo. Filed by Millerine Co., Seattle, Wash., Mar. 15, 1937. Claims use since Jan. 16, 1937.

LIQUID SNOW—This in solid letters describing insecticide. Filed by Isidor Chernie, New York, June 8, 1937. Claims use since Apr. 15 1927.

MULTICIDE—This in solid letters describing insecticides. Filed by McLaughlin Gormley King Co., Minneapolis, July 14, 1937. Claims use since June 29, 1937.

KYDO—This on stencil with moth as illustration describing mothproofing preparations. Filed by Kydo Mothproofing Corp., Boston, July 20, 1937. Claims use since May 25, 1937.

DWINAX—This in solid letters on carton describing floor wax. Filed by Baldwin Laboratories, Saegertown, Pa., July 16, 1937. Claims use since June 1, 1937.

WHITE STAR — This in solid letters describing dry cleaner. Filed by R. R. Street & Co., Chicago, June 1, 1936. Claims use since 1933.

POREX—This in solid letters describing cleanser and soap. Filed by Charles B. Drew, East Orange, N. J., Mar. 4, 1937. Claims use since Jan. 15, 1937.

GHETS—This in script describing insecticide and disinfectant. Filed by Bowes Products Co., Passaic, N. J., Apr. 10, 1937. Claims use since June, 1936.

PAL-LO—This in solid letters describing cleanser. Filed by Pal Products Co., Brooklyn, N. Y., June 18, 1937. Claims use since Dec. 15, 1934.

POWDERED SILK—This in solid letters describing cleanser and soap. Filed by Aadkens, Inc., Des Moines, Ia., Aug. 2, 1937. Claims use since July 26, 1937.

VANISH—This in solid letters describing cleaner. Filed by Expello Corp., Dover, N. H., Aug. 5, 1937. Claims use since July 23, 1937.

POWDERED SILK — This together with picture of woman using cleanser. Filed by Powdered Silk Mfg. Co., Boone, Ia., Aug. 18, 1937. Claims use since Jan. 1, 1927.

PAKA — This in solid letters describing soap chips. Filed by George C. F. List, Philadelphia, Aug. 19, 1937. Claims use since July 15 1936.

MOLE-NOTS—This in solid letters describing insecticide. Filed by Nott Mfg. Co., New York, July 23, 1937. Claims use since April, 1933.

F-X—This in solid letters describing dog shampoo. Filed by Cane Chemical Co., New York, July 29, 1937. Claims use since June 24, 1937.

PENNITRATO — This in solid letters describing insecticide. Filed by El Roy Naval Stores, Vidalia, Ga., Aug. 6, 1937. Claims use since July 1, 1935.

CAL-TEST—This in solid letters describing cleanser. Filed by Calgon, Inc., Pittsburgh, Aug. 10, 1937. Claims use since Aug. 3, 1937.

AROMIS—This in solid letters describing water softening chemical. Filed by Calgon, Inc., Pittsburgh, June 15, 1937. Claims use since May 13, 1937.

MODENE SHAMPOO — This together with girl's head as illustration describing shampoo. Filed by Modernistic Beauty Service, Omaha, Neb., June 17, 1937. Claims use since October, 1936.

DI-NA-MITE SPREDER—This in solid letters describing insecticides. Filed by Sherwin-Williams Co., Cleveland, O., Apr. 1, 1937. Claims use since Feb. 10, 1937.

RUNEX — This together with picture of mule describing soap powder. Filed by Joe Perryman, Columbia, Ky., Jan. 5, 1937. Claims use since Dec. 8, 1936.

RIDZ—This in outline letters describing animal soap. Filed by Midway Chemical Co., Chicago, June 1, 1937. Claims use since Jan. 22, 1937.

PRO-TEX—This in outline letters describing cleanser. Filed by Paul Gibson, Richmond, Va., July 24, 1937. Claims use since June 20, 1934.

POP—This in outline letters together with sketch of man describing detergent. Filed by Popular Brands, Wyncote, Pa., Aug. 4, 1937. Claims use since July 12, 1937.

GONE WITH THE WIND—This in solid letters describing soaps. Filed by Valrie McMahan, Washington, D. C., Aug. 12, 1937. Claims use since May 26, 1937.

NUKOTE—This in solid script describing animal soap. Filed by Nukote Laboratory, Santa Paula, Calif., Aug. 13, 1937. Claims use since Apr. 14, 1937.

ABC

CRESYLIC ACID
AROMATICS

PHENYL ETHYL ALCOHOL
GERANIOL
CITRONELLOL
ACETOPHENONE
BENZYL ACETATE
BENZYL ALCOHOL
BENZOPHENONE
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PREFACE—This in solid letters describing toilet soap. Filed by Pinaud, Inc., New York. Aug. 23, 1937. Claims use since July 15, 1937.

ANT-X—This in outline letters on circular background describing ant killer. Filed by Nott Mfg. Co., New York. July 23, 1937. Claims use since March, 1934.

SULFIX—This in solid letters describing insecticides. Filed by Sherwin-Williams Co., Cleveland, O., Aug. 18, 1937. Claims use since July 18, 1937.

FLODENT—This in solid letters describing dentifrice. Filed by Flodent Products Co., Baltimore, Aug. 20, 1937. Claims use since Mar. 1, 1937.

FEZ—This in outline letters together with fez as illustration describing carpet cleaner. Filed by James B. McComb, New York, Aug. 17, 1937. Claims use since Aug. 5, 1937.

MOTH-GAS—This in solid letters describing insecticides. Filed by Lewey Chemical Co., New York, July 29, 1936. Claims use since October, 1894.

BRECK'S BABY-LAVO — This in solid letters describing shampoo. Filed by John H. Breck, Springfield, Mass., July 9, 1937. Claims use since Feb. 17, 1936.

EXCELSIOR—This in solid letters describing insecticide. Filed by Jack Cramer, San Jose, Calif., Aug. 5, 1937. Claims use since October, 1935.

Trade Marks Granted

350,159. Tooth Paste. Hershey Tooth Paste Co., Philadelphia. Filed April 16, 1935. Serial No. 363,812. Published July 9, 1935. Class 6.

350,187. Shaving Cream. Barrow Brand Products, New York. Filed February 27, 1937. Serial No. 389,396. Published July 13, 1937. Class 4.

350,191. Insect Powder. Pest-O-Way Exterminating Co., Baltimore. Filed March 6, 1937. Serial No. 389,747. Published July 6, 1937. Class 6.

350,264. Cleanser. General Dyestuff Corp., New York. Filed May 8, 1937. Serial No. 392,490 Published July 13, 1937. Class 4.

350,350. Soap Chips. Procter & Gamble Co., Cincinnati. Filed January 29, 1936. Serial No. 374,248. Published July 20, 1937. Class 4.

350,358. Antiseptic Mouthwash. Frank L. Nau, Portland, Oreg. Filed August 15, 1936. Serial No 382,229. Published November 17, 1936. Class 6.

350,363. Cleaner. Kala-Klean Chemical Co., Kalamazoo, Mich. Filed November 2, 1936. Serial No. 385,054. Published July 20, 1937. Class 4.

350,396. Antiseptic. A. Henriques, Biloxi, Miss. Filed March 18, 1937. Serial No. 390,211. Published July 20, 1937. Class 6.

350,510. Washing Compound. Diversey Corp., Chicago. Filed May 13, 1937. Serial No. 392,681. Published July 20, 1937. Class 4.

350,511. Cleanser. Mathieson Alkali Works, New York. Filed May 13, 1937. Serial No. 392,694. Published July 20, 1937. Class 4.

350,512. Cleaner. New Products Corp., Indianapolis, Ind. Filed May 13, 1937. Serial No. 392,699. Published July 20, 1937. Class 6.

350,522. Cleansers. J. S. Fickel, Denver, Colo. Filed May 14, 1937. Serial No. 392,750. Published July 20, 1937. Class 4.

350,524. Shaving Soap. Pinaud Inc., New York. Filed May 14, 1937. Serial No. 392,767. Published July 20, 1937. Class 4.

350,527. Detergent. Scott Chemical Co., Lynn, Mass. Filed May 14, 1937. Serial No. 392,775. Published July 20, 1937. Class 4.

350,551. Insecticides. Sherwin-Williams Co., Cleveland, O. Filed May 20, 1937. Serial No. 393,048. Published July 20, 1937. Class 6.

350,552. Insecticides. Dye-Col Products, New York. Filed May 21, 1937. Serial No. 393,070. Published July 20, 1937. Class 6.

350,553. Insecticides. Dye-Col Products, New York. Filed May 21, 1937. Serial No. 393,071. Published July 20, 1937. Class 6.

350,584. Shoe Polish. W. T. Grant Co., New York. Filed May 28, 1937. Serial No. 393,375. Published July 20, 1937. Class 4.

350,585. Deodorant. Seboreen Laboratories, Chicago. Filed May 28, 1937. Serial No. 393,393. Published July 20, 1937. Class 6.

350,587. Soap. California Stucco Co., Ltd., Los Angeles. Filed May 29, 1937. Serial No. 393,411. Published July 20, 1937. Class 4.

350,713. Soap. Royal Chemical Co., Cincinnati, O. Filed April 26, 1937. Serial No. 391,937. Published July 27, 1937. Class 4.

350,742. Soap, Polishes, and Cleaning Compounds. Salomon & Phillips, New York. Filed May 12, 1937. Serial No. 392,655. Published July 27, 1937. Class 4.

350,752. Cleanser. National Laboratories, Toledo, O. Filed May 17, 1937. Serial No. 392,900. Published July 27, 1937. Class 4.

350,775. Shaving Cream. J. B. Williams Co., Glastonbury, Conn. Filed June 5, 1937. Serial No. 393,743. Published July 27, 1937. Class 4.

350,803. Ant Killer. Antzgo Products, Lakewood, O. Filed March 29, 1937. Serial No. 390,659. Published July 27, 1937. Class 6.

350,887. Cleansing Preparation. An-Our Co., Cincinnati, O. Filed April 23, 1937. Serial No. 391,731. Published August 3, 1937. Class 4.

350,888. Soaps. C. W. Beggs Sons & Co., Chicago. Filed April 23, 1937. Serial No. 391,737. Published August 3, 1937. Class 4.

350,919. Detergent. Soapless Products Co., New York. Filed May 21, 1937. Serial No. 393,354. Published August 3, 1937. Class 4.

350,980. Shoe Polish. Lincoln Lace and Braid Co., Cranston, R. I. Filed October 27, 1936. Serial No. 384,849. Published August 3, 1937. Class 4.

351,041. Hand Cleanser. A. M. Alexander, Chicago. Filed March 16, 1935. Serial No. 362,605. Published March 16, 1937. Class 4.

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BOOKS

Modern Soap Making, by Dr. E. G. Thomssen and C. R. Kemp. The first entirely original American book on soap manufacture in several years. Thoroughly covers every phase of soap manufacture and glycerin recovery. Written by practical soap men....a truly practical book. Chapter headings: Raw Materials; Machinery and Equipment; Soap Making Methods; Soap Products; Glycerin Recovery and Refining; Analytical Methods; Appendix with reference tables, etc. 450 pages. $7.50 per copy in U. S. Add 50 cents for foreign postage.

Henley's Twentieth Century Book of Recipes, Formulas and Processes. A handy reference book listing 10,000 miscellaneous formulas, including special sections for soaps, polishes, insecticides, etc. 800 pages, $4.00.

The Industrial Chemistry of Fats and Waxes, by Hilditch. A study of the fats and waxes in relation to their use in industry. 450 pages, $7.50.

Hydrogenation of Organic Substances, by Ellis. Latest revised edition of this well-known book, pre-eminent in the field of hydrogenation. 990 pages, $15.00.

Laundry Chemistry, by A. Harvey. A manual on the chemistry of laundry materials and methods. 120 pages, 5 x 7½, $1.75.

Modern Soap Perfumes, by Sedgwick. A practical handbook on the science of soap perfumery, $1.00.

Pyrethrum Flowers, by Gnadinger. A complete compilation of all known facts on pyrethrum; its history, sources, evaluation, chemistry and uses. The problems involved in the manufacture of pyrethrum products are given thorough and lucid exposition. 396 pages, $5.00.

"Soap." Bound volumes for years 1927-28, 1935 and 1936 available at $12.00 each.

Soap Blue Book. A Buyer's Guide, Catalog and Business and Technical Reference Book. 195 pages, $1.00.

Vegetable Fats and Oils, by George S. Jamieson. 444 pages. An American Chemical Society Monograph. Covering classification, occurrence, properties, analytical methods, etc., of vegetable oils, fatty acid and other derivatives; also production and refining methods, $6.50.

Chemistry of Laundry Materials, by D. N. Jackman. A useful book for the laundry operator, containing valuable information on the chemistry of laundry materials. Discusses alkalies, soaps, bleaches, starches, also the newer detergents, synthetic soaps, etc. 230 pages, $2.50.

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Raw Material Markets

As of October 27, 1937

NEW YORK — The trend of prices in the market for soap raw materials continued downward this period. Renewed impetus was given to the downward movement by the collapse in security prices. In the fear that this action of the security markets might be followed by a general recession in business activity, many buyers refrained from making further commitments and pursued very conservative buying policies. The result was slackened trading in commodities and lower prices all along the line.

This was reflected in the soap raw material market in lower quotations for a whole list of vegetable and animal fats and oils. Many materials are at their lowest levels of the year at present prices. The only resistance to the movement to lower levels was encountered in commodities affected by the war between Japan and China. Raw materials produced in China, such as anise and cassia oils and tung oil, continued to advance.

OILS and FATS

With current high prices of meats, coupled with an abundant supply of cheap grain, the outlook for the coming winter is for a large increase in cattle feeding and a replenishment of the country's animal population, which has been reduced so sharply by droughts in recent years. This will probably not mean any increase in animal fat supplies in 1938, however, as slaughtering of cows and heifers will have to be curtailed in the move to restock cattle herds. It should mean, though, that by 1939 the country's animal population will be back closer to a normal figure.

Coconut Oil

The coconut oil market maintained a steady keel during the period just closed, resisting the general declining tendency principally because of the firm position of copra in the Philippine market. New York tanks of Manila oil are quoted currently at 4⅝c per lb., with copra at 2 6/10c on the coast.

Olive Oil

Interest in the olive oil market seemed to be concentrated on foots this period, with a fairly active inquiry reported. A recent report from Italy indicates that the new crop will be ready for marketing in December. It is stated to be somewhat better than normal for the southern part of the country, but slightly below normal in other regions.

Greases

Grease quotations dropped sharply this period, with all grades a cent or more a pound lower in price. The range on yellow and house greases is now 5½ to 5¾c per lb.

Tallow

Tallow also suffered a substantial price decline this period, the market here being especially sensitive to developments on the security exchanges. Quotations are currently half a cent lower than a month ago at 6⅞ per lb. for city extra.

PERFUMING MATERIALS

Anise Oil

A further gain was recorded in anise oil prices this period, with the market retaining its nominal position. Limited supplies are available at $1.45 per lb. for regular buyers.

Bergamot Oil

Contrary to the downward movement in other Italian oils, bergamot moved to higher levels this period and is now quoted at the range of $4.00 to $4.10 per lb.

Cassia Oil

Like anise oil, cassia also moved to higher levels this period in a nominal market, being quoted currently at $1.30 per lb. on such small quantities as are available.

Citronella Oil

A decline was noted in quotations on citronella this period, with both Java and Ceylon grades being affected. Java is now quoted at 45 to 48c, with Ceylon at 40 to 42c.

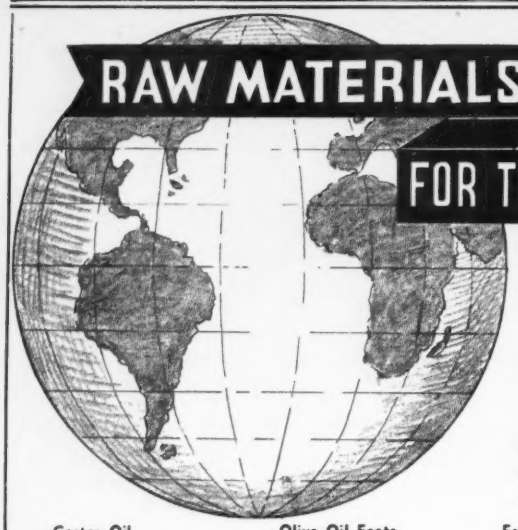
Cedarleaf Oil

With a slackening in demand, quotations on cedarleaf oil have eased off somewhat from the higher levels in effect over recent months. The current market range is from 85c to $1.10.

Organize Unit Packages

Harold M. Bowman, formerly plant manager for Stanco, Inc., New York, has just organized a new private brand firm which will operate under the name of Unit Packages, Inc., at 963 Newark Avenue, Elizabeth, N. J. The concern will specialize in products to be packed in tubes,—concentrating on liquids and pastes in one-shot packages. The management is at present working on a number of ideas for the packaging of products which have not, in the past, been offered in tube form. They are, at present, packaging "Vitalis" in this manner as well as "Vick's Nose Drops", "Three-in-one Oil", a liquid fire extinguisher and several shampoos.

Associated with Mr. Bowman in the new concern are the following: Vice-president, W. M. Rose, president of Sun Tube Co., Hillside, N. J. Treasurer, A. B. Drake, president of Lehigh Warehouse & Transfer Co., Newark, N. J. Secretary, Harold Lyon, attorney. William Bristol of Bristol-Myers Co., Hillside, N. J., will serve on the board of directors.



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Cocoanut Oil	Peanut Oil	Lard Oils	Grease	Silicate Soda
Corn Oil	Perilla Oil	Neatsfoot Oil	Lanolin	Metasilicate
Cottonseed Oil	Rapeseed Oil	Oleo Stearine	Caustic Soda	Tri Sodium Phosphate
Palm Oil	Sesame Oil	Stearic Acid	Soda Ash	Di Sodium Phosphate
Palm Kernel Oil	Soya Bean Oil	White Olein	Caustic Potash	Chlorphyll
Olive Oil	Teaseed Oil		Carbonate Potash	"CEREPS" Superfatting Agent
			Sal Soda	

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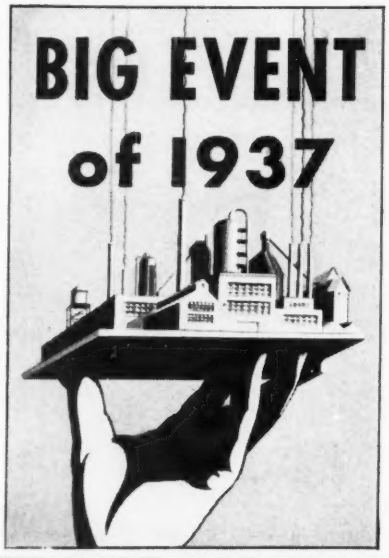

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Raw Material Prices

(As of October 27, 1937)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .06	$ .06½
Acid, Boric, bbls., 99½%	ton	95.00	100.00
Cresylic, drums	gal.	.89	.93
Low boiling grade	gal.	.92	.96
Oxalic, bbls.	lb.	.11½	.12¼
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17	.19
Alcohol, Ethyl, U. S. P., bbls.	gal.	4.14	4.19
Complete Denat., SD 1, drums, ex.	gal.	.32	.37
Alum, Potash lump	lb.	.03½	.03¾
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1	ton	—	16.00
Bentonite 2	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	2.60
Borax, pd., cryst., bbls., kegs	ton	47.00	67.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
Caustic, see Soda Caustic, Potash Caustic			
L. C. L.	lb.	.07	.08
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.12	.12½
Creosote Oil	gal.	.13½	.14
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	15.00	24.00
Glycerine, C. P., drums	lb.	.21½	.22
Dynamite, drums	lb.	.21½	.22
Saponification, drums	lb.	.16	.16½
Soap, lye, drums	lb.	.14½	.15
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	1.70	2.20
Mercury Bichloride, kegs	lb.	.71	.76
Naphthalene, ref. flakes, bbls.	lb.	.07¼	.07½
Nitrobenzene (Myrbane) drums	lb.	.09	.11
Paradichlorbenzene, bbls., kegs	lb.	.16	.25
Petrolatum, bbls. (as to color)	lb.	.02	.07¼
Phenol, (Carbolic Acid), drums	lb.	.13¼	.14¼
Pine Oil, bbls.	gal.	.70	.85
Potash, Caustic, drums	lb.	.06¼	.06½
Flake	lb.	.07	.07¼
Potassium Carbonate, solid	lb.	.07¼	.09½
Liquid	lb.	.03½	.03¾
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	8.10	8.30
Grade K to N	bbl.	8.32	8.32
Grade WG and X	bbl.	8.55	8.80
Wood FF Spot	bbl.	8.20	9.15
Rotten Stone, pwd. bbls.	lb.	.02½	.04½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.26	.35
Olive Castile, powder	lb.	.28	.38
Powdered White, Neutral	lb.	.19½	.21½
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U. S. P.	lb.	.08	.09½
Tallow Chips, 88%	lb.	.09	.09½
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.23	1.50
Car lots, in bulk	100 lb.	—	1.05
Soda Caustic, cont., wks., solid	100 lb.	—	2.60
Flake	100 lb.	—	3.00
Liquid, tanks	100 lb.	—	2.25
Soda Sal., bbls.	100 lb.	$1.10	$1.30
Sodium Chloride (Salt)	ton	11.40	14.00
Sodium Fluoride, bbls.	lb.	.07¼	.08¾
Sodium Hydrosulphite, bbls.	lb.	.19	.20
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.35	1.75
Tar Acid Oils, 15-25%	gal.	.22½	.30½
Triethanolamine	lb.	.20	.25
Trisodium Phosphate, bags, bbls.	lb.	.03	.03½
Zinc Oxide, lead free	lb.	.06	.06¼
Zinc Stearate, bbls.	lb.	.20	.22

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.07½	.07¾
Castor, No. 1, bbls	lb.	.10¾	.11½
No. 3, bbls.	lb.	.10¼	.11
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.04⅝	—
Tanks, Pacific coast, futures	lb.	.04⅜	—
Cod, Newfoundland, bbls.	gal.	.52	Nom.
Copra, bulk, coast	lb.	.0260	.0270
Corn, tanks, mills	lb.	.07	Nom.
Cottonseed, crude, tanks, mill	lb.	—	.06¼
PSY, futures	lb.	.07¼	.07½
Degras, Amer., bbls.	lb.	.07⅜	Nom.
English, bbls.	lb.	.07⅜	Nom.
Neutral bbls.	lb.	.12	Nom.
Greases, choice white bbls., fob Chicago	lb.	.06¾	.07¾
Yellow	lb.	.05½	.05¾
House	lb.	.05½	.05¾
Lard, City	lb.	.11	.11¼
Compound tierces	lb.	.10¼	.10½
Lard Oil.			
Extra, bbls.	lb.	—	.11¾
Extra, No. 1, bbls.	lb.	—	.10½
No. 2, bbls.	lb.	—	.09⅛
Linseed, raw, bbls.	lb.	.1100	.1140
Tanks, raw	lb.	—	.1040
Boiled, 5 bbl. lots	lb.	.1220	.1240
Menhaden, crude, tanks, Balt.	gal.	.35	Nom.
Oiticica Oil, tanks	lb.	.18	Nom.
Oleo Oil, No. 1, bbls., N. Y.	lb.	—	.13
No. 2, bbls., N. Y.	lb.	—	.12¼
Olive, denatured, bbls., N. Y.	gal.	1.30	Nom.
Foots, bbls., N. Y.	lb.	.10½	—
Palm, shipment	lb.	.04⅛	Nom.
Palm Kernel, shipment	lb.	.05	Nom.
Peanut, domestic, tanks	lb.	.06½	Nom.
Rapeseed Oil, denat.	gal.	.94	.95
Red Oil, distilled, bbls.	lb.	.10¾	.11⅜
Saponified, bbls.	lb.	.10⅜	.11⅜
Tanks	lb.	—	.09½
Sesame Oil, dms.	lb.	.10½	Nom.
Soya Bean, domestic tanks, saponified, f.o.b. West	lb.	.07½	.08
Stearic Acid.			
Double pressed	lb.	.11½	.12½
Triple pressed, bgs.	lb.	.14¼	.15¼
Stearine, oleo, bbls.	lb.	.08½	.09
Tallow, special, f.o.b. plant	lb.	—	.06½
City, ex. loose, f.o.b. plant	lb.	—	.06⅞
Tallow oils, acidless, tanks, N. Y.	lb.	—	.09¼
Bbls., c/1 N. Y.	lb.	—	.09¾
Teaseed Oil, crude	lb.	.09¼	.09½
Whale, refined	lb.	.1010	.1030

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CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBERS SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE

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COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID
-RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
RAPESEED OIL
ROSIN
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(*As of October 27, 1937*)

Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.75	$3.00
Bitter, F. F. P. A.	lb.	3.00	3.25
Sweet, cans	lb.	.83	.90
Anise, cans, U. S. P.	lb.	1.45	Nom.
Bay tins		1.35	1.50
Bergamot, coppers	lb.	4.00	4.10
Artificial	lb.	1.25	1.40
Birch Tar, rect. tins	lb.	.70	.75
Crude, tins	lb.	.14	.17
Bois de Rose, Brazilian	lb.	1.25	1.35
Cayenne	lb.	2.75	3.00
Cade, cans	lb.	.48	.52
Cajeput, native, tins	lb.	.56	.57
Calamus, tins	lb.	5.50	5.75
Camphor, Sassy, drums	lb.	.17	.18
White, drums	lb.	.17	.18
Cananga, native, tins	lb.	1.65	1.75
Rectified, tins	lb.	2.50	3.00
Caraway Seed	lb.	2.10	2.25
Cassia, Redistilled, U.S.P.	lb.	1.30	Nom.
Cedar Leaf, tins	lb.	.85	1.10
Cedar Wood, light, drums	lb.	.26	.30
Citronella, Java, drums	lb.	.45	.48
Citronella, Ceylon, drums	lb.	.40	.42
Clove, U. S. P., tins	lb.	1.15	1.17
Eucalyptus, Austl., U.S.P., cans	lb.	.44	.46
Fennel, U. S. P., tins	lb.	1.20	1.30
Geranium, African, cans	lb.	4.00	4.75
Bourbon, tins	lb.	3.75	4.00
Turkish	lb.	2.90	3.00
Hemlock, tins	lb.	1.05	1.10
Lavender, U.S.P., tins	lb.	2.25	5.60
Spike, Spanish, cans	lb.	1.05	1.10
Lemon, Ital., U.S.P.	lb.	2.60	3.00
Cal.	lb.	2.50	—
Lemongrass, native, cans	lb.	.42	.43
Linaloe, Mex., cases	lb.	1.15	1.20
Nutmeg, U. S. P., tins	lb.	1.25	1.30
Orange, Sweet, W. Ind., tins	lb.	2.00	2.05
Italian cop	lb.	2.25	3.00
Distilled	lb.	—	.80
Cal.	lb.	2.25	—
Origanum, cans, tech	lb.	.90	1.25
Palmarosa	lb.	2.90	3.00
Patchouli	lb.	5.00	8.00
Pennyroyal, dom.	lb.	1.40	1.45
Imported	lb.	1.40	1.50
Peppermint, nat, cans	lb.	2.25	2.50
Redis., U.S.P., cans	lb.	2.50	2.75
Petitgrain, S. A., tins	lb.	1.10	1.20
Pine Needle, Siberian	lb.	1.02	1.05
Rose, Natural	oz.	5.25	22.50
Artificial	oz.	2.00	3.00
Rosemary, Spanish, tins	lb.	.56	.75
drums	lb.	.51	Nom.
Sandalwood, E. Ind., U.S.P.	lb.	5.25	5.50
Sassafras, U. S. P.	lb.	.90	1.05
Artificial, drums	lb.	.34	.35
Spearmint, U.S.P.	lb.	1.75	1.80
Thyme, red, U.S.P.	lb.	.75	1.25
White, U.S.P.	lb.	.85	1.35
Vetivert, Bourbon	lb.	8.00	18.00
Ylang Ylang, Bourbon	lb.	3.50	6.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.25	$2.25
Amyl Cinnamic Aldehyde	lb.	1.55	2.00
Anethol	lb.	1.30	1.35
Benzaldehyde, tech.	lb.	.60	.65
U. S. P.	lb.	1.20	1.30
Benzyl, Acetate	lb.	.55	1.00
Alcohol	lb.	.65	1.15
Citral	lb.	1.70	3.15
Citronellal	lb.	1.10	1.25
Citronellol	lb.	1.90	2.15
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.10	3.30
Cymene, drums	gal.	.90	1.25
Diphenyl oxide		.70	1.00
Eucalyptol, U. S. P.	lb.	.58	.60
Eugenol, U. S. P.	lb.	2.00	2.50
Geraniol, Domestic	lb.	.75	2.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	2.00	2.50
Heliotropin	lb.	2.00	2.10
Hydroxycitronellal	lb.	3.50	9.00
Indol, C. P.	oz.	2.00	2.50
Ionone	lb.	3.25	5.50
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	1.65	2.25
Linalyl Acetate	lb.	1.70	2.55
Menthol	lb.	3.50	3.60
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.75
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	4.20	5.00
Ketone	lb.	4.35	5.25
Xylene	lb.	1.25	2.00
Phenylacetaldehyde	lb.	4.80	8.00
Phenylacetic Acid, 1 lb., bot.	lb.	2.50	3.25
Phenylethyl Alcohol, 1 lb. bot.	lb.	4.00	4.50
Rhodinol	lb.	5.75	8.00
Safrol	lb.	.47	.50
Terpineol, C. P., 1,000 lb. drs.	lb.	.23	.25
Cans	lb.	.27	.30
Terpinyl Acetate, 25 lb. cans	lb.	.80	1.00
Thymol, U. S. P.	lb.	1.70	1.95
Vanillin, U. S. P.	lb.	3.10	3.80
Yara Yara	lb.	1.30	2.00

Insecticide Materials

Insect Powder, bbls.	lb.	.18	.20
Concentrated Extract			
5 to 1	gal.	1.35	1.45
20 to 1	gal.	5.00	5.25
30 to 1	gal.	7.50	8.00
Derris, powder—4%	lb.	.33	.38
Derris, powder—5%	lb.	.39	.44
Cube, powder—4%	lb.	.23	.28
Cube, powder—5%	lb.	.28	.33

Gums

Arabic, Amb. Sts.	lb.	.12	.12½
White, powdered	lb.	.16	.17
Karaya, powdered No. 1	lb.	.12	.13
Tragacanth, Aleppo, No. 1	lb.	2.75	3.00
Flake	lb.	.50	1.00

Waxes

Bees, white	lb.	.39	.42
African, bgs.	lb.	.26	.26½
Refined, yel.	lb.	.35	.39
Candelilla, bgs.	lb.	.17	.17½
Carnauba, No. 1	lb.	.44½	.46½
No. 2, N. C.	lb.	.39	.40
No. 3, chalky	lb.	.35	.37
Ceresin, yellow	lb.	.08½	.11
Paraffin ref. 125-130	lb.	.0455	04¾

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

Filled and Built Soaps

IT is possible to use filling agents and builders in such a way that the quality of the filled soap is not inferior to that of unfilled soap. One might think of the fatty alcohol sulfates and the Igepons as attempts to fill soap from the interior of the molecule rather than the exterior. While compounds of this kind with detergent properties have been developed, they are as yet more expensive than the exterior method of soap filling.

The question of the suitability of fillers and builders requires consideration from two angles, that of the point of view of the soap manufacturer, and that of the point of view of the soap consumer. Considering the first, the unfinished soap stock must remain sufficiently mobile after the filling agent is added. The separated soap should not be sticky or glassy and should be ready for pressing after standing for 1 or 2 days. Loss due to evaporation and deformation should be kept to a minimum. The soap should not form a crust or show efflorescence. The content of free alkali should not exceed 0.2 per cent. The cost of filling should be kept in the neighborhood of that of sodium silicate.

From the point of view of the consumer, the filled soap should be such as not to attack the skin or textile fabric. Those which have been commonly used include the following:

1. Neutral salts such as chlorides and sulfates.
2. Carbonates such as potash, soda ash and bicarbonate.
3. Silicates such as waterglass and metasilicate.
4. Alkali phosphates.
5. Organic substances, including sugar, starch, cellulose derivatives, casein and aromatic sulfonic acids.
6. Insoluble materials like talcum.

Neutral salts may be considered as so much ballast, as they have no detergent action of their own. In fairly high proportions, they inhibit lathering, and merit no further discussion. Only small additions of potash are possible as it is hygroscopic. Sodium soap is softened by the presence of large amounts of potassium salts. Soaps filled with sodium bicarbonate have a good appearance, but are not very stable on storage, as they acquire a coarse pumice-like feel. Bicarbonate also decreases lather. Soaps filled with soda ash have somewhat similar disadvantages. They tend to dry out excessively and to form a coating on the surface.

Sodium silicate has been used extensively for "building" soap. It was even used in small amounts in cheap toilet soap before the World War and consumers never offered complaints about it. When fats have been replaced to the extent of 10-15 per cent, the results are not satisfactory. Bars of such soap dry out until they become as hard as bone. In recent years, metasilicate has been recommended as a "building" agent. This is not a new product but is ordinary sodium monosilicate. Its colloidal properties vary according to whether it is prepared by a wet or dry method. One might say it can be in a state of high or low polymerization. Its colloidality gives it properties resembling in some respects those of soap.

The difference between ordinary silicate and metasilicate is chemical. The former has a low proportion of base and a high proportion of silicic acid and might be represented as $Na_2Si_4O_9$. When used in soap, it is often combined with caustic soda. Metasilicate, on the other hand is strongly alkaline and should not be used in a high proportion in soap without being combined with waterglass, a good mixture being 4 parts of metasilicate, $Na_2O.SiO_2.5H_2O$, with 6 parts of 38° Be. waterglass. Metasilicate is prepared as both the 5 and the 9 hydrate.

A mixture of sodium silicate with metasilicate offers the advantage that it can be varied according to the fatty ingredients present so that the soap will have the proper degree of hardness. In the winter months, the addition of 1 per cent of sugar is of advantage. The same addition can be made in the summer months when the fat composition is especially high in stearins. Such a mixture can be judged by the soap maker according to the following points. The soap mass possesses the necessary mobility so that

it can be readily worked up in the cooling press. The method of filling is simple. The yield is the same as when "building" is done with waterglass.

Experiments were carried out to determine the effect of metasilicate on textiles. In the case of soap powder, (a) 2 parts of soap and 1 part of soda ash, and (b) 2 parts of soap and one-half part of metasilicate were tried. In the case of curd soap, tests were made with (a) 63 per cent fatty acid soap, unfilled, (b) 50 per cent fatty acid soap with waterglass filling, and (c) 50 per cent fatty acid soap with 7 per cent of metasilicate. The washing was done in hard and in soft water, using cotton and linen.

The results with the two soap powders were as follows: tensile strength was the same in both cases. There was no appreciable difference in residual ash. In hard water the ash content after 25 washings reached 2.5 per cent, the silicic acid content 0.4 per cent. Whether this is harmful to textiles is not known. It would appear that probably a soap powder with a high concentration of "building" agent should be used in soft water, or that hard water should be softened before washing with it.

With the small additions made to curd soap, any effect on the fiber was negligible. Metasilicate showed about the same behavior as soda ash and waterglass. As to a chemical comparison of waterglass and metasilicate, in both cases the acid character is very weak, so much so that alkali silicate is decomposed by carbonic acid and silicic acid precipitated. A silicate with a high content of alkali like metasilicate is more resistant to decomposition influences than a low-alkali silicate. The detergent effect is greater with metasilicate because it falls in the class of alkaline salts, which as a general class are known to increase the detergency of soap. In actual washing tests under household conditions, metasilicate was rated as being twice as high in washing effect as soda ash.

Addition of a water-insoluble, voluminous, solid substance like talcum, is optional, and when made is used to influence the structure of the lather. C. L. Bauschinger. *Fette und Seifen* **44,** 352-5 (1937).

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Soap Bleaching

Soap bleaching always takes place after the first salting out, as so many of the impurities from the soap are carried off in the first salt liquor. Both oxidizing and reducing agents are used as soap bleaches. To the first belong palidol, peroxol, hydrogen peroxide and potassium and sodium lye bleaches. To the latter belong blankit, and hydrosulfite AZA. The reducing agents appearing on the market under the name of Blankit and Dekrolin are salts of hydrosulfuric acid. For example Blankit is sodium hydrosulfite and has the formula $Na_2S_2O_4$. $2H_2O$. This is a good bleach for dark colored soap and where impurities due to ferric iron are present. Such compounds are dark brown and are insoluble in water. They are reduced by Blankit to green ferrous compounds and are then removed with the salt liquor. Blankit is used either in a concentrated solution of caustic soda or suspended in a mixture of water and lye. From 1 to 3 parts by weight of hydrosulfite are used per 1000 parts of fat. *Allgemeine Oel- und Fett-Ztg.* **34,** 360-1 (1937).

◆

Soap Boiling Catalysts

The use of catalysts in soap boiling speeds up saponification and permits it to take place at a lower temperature. The experimental results indicate a successful application of the catalytic principle. One per cent of 2-naphthol, β-naphthol and thymol have been found to be successful accelerators of saponification, but of these thymol is the only one not giving the soap an objectionable disinfectant odor. Its price makes its general use impractical. Phenols and cresols, in addition to the odor factor, alter the consistency of the soap. Bentonite is an entirely different type of material. Its function is to induce the fat to emulsify more thoroughly with the lye. It can be used with any vegetable or animal oil and speeds up the reaction of that oil with lye. The method of use is to disperse the bentonite in hot water, stir the melted fats into this and then add the alkali. Agitation greatly increases emulsification by reducing the size of the drops and thus increasing surface area. Paul I. Smith. *Am. Perfumer* **33,** 70 (1937).

◆

Free-flowing Phosphate

Free-flowing trisodium phosphate is prepared by coating the crystals with sodium carbonate in an amount sufficient to overcome the tendency to form a solution on the surface of the crystals. Am. Cyanamid Co. Canadian Patent No. 369,077.

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Salt Content of Soap

If soap stock is found to be too high in salt content and it is undesirable to take sufficient time to reboil it, a soap for addition can be prepared which will give the final product the desired smoothness and plasticity for proper milling. With this correction a soap having more than 0.5 per cent of salt can be prepared for milling. A semi-boiled combination of sodium and potassium soap is used. The fat ingredients for such a soap are:

	Per Cent
Tallow	65
Coconut oil	15
Palm oil	15
Castor oil	5

The addition may also serve to reduce the cost of the soap. *Deutsche Parfumerie-Ztg.* **23,** 340 (1937).

◆

Carotene in Palm Oil

There are indications that Malayan palm oil is much lower in carotene content than some palm oils from West Africa. Carotene is what gives palm oil its bright yellow color. Malayan palm oil which is low in acidity and which is from ripe fruit is richer in carotene than oil from the same source produced under different conditions. *Manufacturing Chemist 8,* 229 (1937).

Properties of Soap Solutions

Determinations of surface tension, interfacial tension against mineral oil, and spreading coefficient, were made for solutions containing 1 gram per 100 cc. of *n*-caproic, *n*-caprylic, *n*-capric, lauric, myristic and palmitic acids, respectively, each mixed with sodium hydroxide in an alkali-fatty acid mole ratio varying from 0.80 to 3.0.

The curves show that the surface tension decreases with increase in molecular weight of the fatty acid. The surface tension curves for the various mixtures are similar in form, showing a minimum surface tension below a mole ratio of sodium hydroxide to fatty acid of 1.0, with a sharp rise in the vicinity of the ratio 1.0, and a gradual decrease beyond this point. In other words, with an equivalent concentration of alkali to fatty acid, surface tension values are at a maximum, and excess fatty acid or excess alkali brings these values down. This accords with the hypothesis that the lowest surface tensions of such aqueous solutions are due to the presence of an "acid soap." The curves representing the interfacial tensions of the same solutions against mineral oil are similar to the surface tension curves. Minimum interfacial tensions are obtained with an alkali-fatty acid ratio of less than 1.0. The magnitudes of the spreading coefficients are in the same order as the corresponding molecular weights, at least in the range of alkali-fatty acid ratios above 1.0. The wetting power of a soap solution, as measured by its spreading coefficient on mineral oil, is closely related to its foam-producing power, dirt-suspending power, and efficiency as a detergent.

The efficiency of sprays that function as contact insecticides is directly related to the ease with which they wet the surfaces to be covered. The situation is different with stomach poisons which function by means of the deposit that remains after evaporation of the liquid medium. In this case the aim is to obtain a maximum deposit, evenly distributed over the surface. Solutions with high wetting power will often produce excessive runoff. Maximum efficiency in a spray solution of this type may well be associated with relatively high surface and interfacial tensions against the surface being covered, i.e., low wetting power. If the wetting power is too low, however, the spray solution will collect in drops instead of evenly covering the surface, and thus leave a spotty deposit. H. L. Cupples. *Ind. Eng. Chem.* **29,** 924-6 (1937).

Bentonite in Soap

Bentonite can be added to soap stock for caked, powdered or soft soaps. Such soaps dry more rapidly but do not become too dry. They do not soften in hot weather and disperse in water faster than does pure soap. Soap flakes and soap powders containing bentonite are less brittle and more bulky than the similar products without it.

Bentonite can be added to soap in an amount up to 4 per cent; (1) by being crutched into the ordinary soap solution as a dry powder, (2) by being added to fats in the pan prior to the alkali or (3) by being dispersed in hot water, the melted fats being stirred in later, and the alkali added last. The third method is recommended as it causes more rapid and complete reaction.

Paste soaps can be manufactured by making a thick paste of bentonite and water,—e. g. 12 ounces to the gallon, and stirring melted soap into it, both hot, until the desired consistency is reached. A very fluffy product can be made in this way. Its properties may be improved by addition of a solution of trisodium phosphate. Sodium bisulfite may be added to give a bleaching action. *Chem. Trade J.* & *Chem. Engineer* **101,** 290 (1937).

Reclaiming Cleaning Fluids

Dry cleaning fluids can be freed from finely divided mineral matter, fats, soaps and other soil picked up in the dry-cleaning process, by bubbling the used solvent through a 10° Be. solution of sodium metasilicate. Chester L. Baker. *Can. Chem.* & *Met.* **21,** 320-1 (1937).

Color Reaction of Animal Fats

The detection of vegetable fats in animal fats was worked out by combining Windaus' method for isolating sterols with digitonide and then using Boemer's reaction of forming the acetate of phytosterol. The reverse detection of animal fats is not so easily accomplished. The following method can be used to detect both hydrogenated and nonhydrogenated whale oil and other animal fats with the exception of pork fat.

Mix 1 cc. of fat with 3 grams of trichloroacetic acid in a test tube and warm for 5 minutes at 60°C. Remove from the bath and add 10 cc. of chloroform. A violet color indicates the presence of animal fat, with the exception of pork fat which fails to react. An intense violet color is produced with such oils as whale, seal, herring, pilchard and that from egg yolk. The reaction is less intense but still perceptible with beef fat, premier jus, oleo oil, butter fat, mutton fat and horse fat. The reaction is best with fresh fats that do not contain peroxides.

Impure fats that are dark in color or that have been artificially colored should first be treated as follows: Mix 25 grams of fat or oil with 50 cc. of petroleum ether boiling at 40-60°C. To the solution add 1 gram of decolorizing carbon and 4 grams of activated earth. Let boil for a few minutes under a reflux. Filter and remove the petroleum ether from the filtrate by distillation.

Sesame oil gives a green color. Just what produces the violet color in animal fats is not known. It may possibly be associated with vitamin A, since the vitamin is lacking in pork fat. Pure ergosterol, cholesterol or phytosterol does not give the color. S. H. Bertram. *Les Matieres Grasses 29,* 225-6 (1937).

Soap Formed in Situ

Textile materials are cleaned by applying to the material an acid that forms a detergent with strong alkalies, and applying an alkali from dilute solution to form the detergent *in situ.* Camille Dreyfus. Canadian Patent No. 368,930.

Products and Processes

Decorated Soap Cakes

Advertisements, pictures and decorations are applied to soap cakes by printing these in the form of labels on very thin and transparent paper, silk tissue or other transparent substance, and applying the labels to the soap bars. The bars must first have had one surface treated with a moisture-proof liquid that has been allowed to dry partially. The soap bar and label are allowed to dry thoroughly and then a coating of the liquid is applied over the entire outside surface of the label and allowed to dry. Ronald B. Angel. Canadian Patent No. 368,733.

Household Water Softener

A water softener is made in flake form in which the thickness of the flake is of the order of 0.001 inch. The flake consists substantially of alkali meta—and pyrophosphates and has spotted on its surface a minor proportion of crystals of alkali orthophosphate and carbonate. Victor Chem. Works. Canadian Patent No. 369,007.

Molded Fatty Alcohol Sulfates

A detergent in molded form consists of approximately 53 per cent of the sulfonates of a 1:1 mixture of oleyl alcohol and saturated alcohols having 16-18 carbon atoms in the molecule,—40 per cent of the sulfonates of the mixture of alcohols produced by the reduction of the fatty acids from coconut oil,—and 7 per cent of curd soap. Walther Schrauth. U. S. Patent No. 2,088,308.

Transparent Silicate Detergents

Silicate detergents of the anhydrous alkali-metal silicate type and of the anhydrous alkali-metal aluminum silicate type are prepared by fusing a mass of the anhydrous silicates and immediately chilling the material by artificial means to a temperature below the critical temperature at which opaque crystalline material is formed on solidification. A transparent product is formed free from opaque material. It is highly soluble in water. The Electric Smelting and Aluminum Co. Canadian Patent No. 368,649.

Textile Wetting Agent

Cyclic hydrocarbons are condensed with 1 or more aromatic or aliphatic hydrocarbons containing hydroxy groups. The condensation takes place with elmination of water and in the presence of dehydrating agents. Thus, oleic alcohol is chlorinated and the chloro compound is condensed with δ naphthalenesulfonic acid in the presence of aluminum chloride and a dehydrating agent. The product is neutralized with caustic soda or organic bases and used in the textile industry. Alfred Ofner. French Patent No. 809,342.

Transparent Shaving Soap

Only the highest grade of materials is suitable for use in transparent shaving soap. This applies equally to the fats and lye, as well as to glycerine and other incidental ingredients. Formulas for this type of soap are as follows:

Ingredients	*I*	*II*	*III*
Australian beef tallow	—	20%	40%
Cochin coconut oil	30%	20	30
Triple pressed stearin	60	50	20
Castor oil	10	10	10
Caustic potash, 40° Be.	35	30	20
Caustic soda, 36° Be.	15	20	30
Denatured alcohol	40	50	60
Glycerine	20	15	10
Sugar	15	20	20
Water	20	20	20
Perfume	1.5	1.5	1.5
Color to suit			

The oils and fats, except for a portion of the castor oil, are put into a covered kettle and warmed to about 60°C. (140°F.) on a water bath. The alkali is heated to the same temperature and then added slowly with constant stirring to the fat charge. A little alcohol is added to accelerate saponification. The kettle is kept covered for half an hour when the batch is tested to determine whether saponification is complete. If it is, the remainder of the castor oil is run in. It is covered again and kept on the water bath. After an hour tests are again made for completeness of saponification. If too much alkali is found present it must be taken up by the addition of more oil.

The soap is next removed from the water bath and a clear, filtered solution of sugar warmed to about 70°C. (158°F.) is added with thorough mixing. Alcohol and glycerine are also stirred into the soap until the soap has gone into solution. Filtered dye material and perfume are added. The soap solution is filtered if possible and put into tin barrels. On the second day the soap bars are taken out by warming the barrels. The bars are cut to the required size and kept for two weeks to dry. They are then stamped and packed.

Care must be taken in the selection of color and perfume in order to keep the soap transparent. Water-soluble colors are preferable. *Indian Soap J. 4*, 59-61 (1937).

Dry-cleaning Solvents

A dry-cleaning solvent is prepared from hydrocarbons or their chlorinated derivatives, corresponding to petroleum naphthas. These are fluorinated and from the resulting product there is separated a fraction boiling at about 50-200° C., which is relatively nontoxic and noninflammable. Peter J. Wiezevich. U. S. Patent No. 2,090,772.

Wool Detergent

Phthalic acid-β-sulfonic acid is treated with *p*-aminolauric acid anilide or with *p*-aminostearic acid anilide. The products are strong foam formers and are used for washing and softening wool, rayon, etc. Soc. pour l'ind. chim. a Bale. Swiss Patents No. 188,763.

Substituted Amines

Compounds which have foaming and wetting power and are auxiliary agents in the textile industry are prepared by causing an alkylene oxide to react in the presence of water on a tertiary amine insoluble in water and containing at least 1 radical of high molecular weight. Temperatures up to 100° C. may be used. I. G. Farbenind. A.-G. French Patent No. 806,819.

Efficiency of Alcohol Sulfates

A study of the fatty alcohol sulfates as applied in laundry work indicates that the same washing efficiency can be obtained with 1/2 to 2/3 amount of fat hitherto used in high percentage soaps. It is important, in order to obtain this result, that the preparations be used exactly as found most efficacious by careful research. *Wascherei und Platterie-Ztg.* **1937,** No. 23.

Improving Liquid Soaps

By dissolving smooth transparent soft soaps in distilled or soft water, liquid soaps are made which may be used for industrial purposes or as inexpensive washroom soaps. To improve their detergent action, the following may be added; 4 per cent of Turkey red oil, 2 per cent of Dekalin, and 2 per cent of turpentine.

Another method is to prepare a high percentage soap by emulsion-saponification by the cold or semi-boiled process, and dissolve as much of this as is needed. This gives a good quality soap. When perfuming the better liquid soaps it should be remembered that the basic perfume oils need to be dispersed in the aqueous soap solution. A suitable emulsifier will aid in this.

A translucent soap can only be obtained if the fats have been completely saponified. Viscosity may be increased by the addition of small amounts of sugar, glycerine or terpineol. This property makes terpineol a useful perfume base for liquid soaps and shampoos. Cloudiness caused by the presence of calcium salts may be cleared up by the addition of 1/3 per cent of sugar or 0.5-1 per cent of potassium chloride. Cloudiness caused by fats or fatty acids may be removed by the addition of ethyl, amyl or butyl alcohol. Turbidity from any source can usually be removed by cooling and filtering. Another means of preventing turbidity is the addition of 2/5 per cent of a mixture of sodium metaphosphate and potassium metaphosphate, the latter salt forming more than half the mixture.

An alkaline liquid soap may be neutralized and also superfatted by addition of 0.5-1 per cent of Turkey red oil without causing turbidity, provided it was clear in the first place. J. M. Vallance. *Soap, Perfumery & Cosmetics.* **10,** 753-4 (1937).

Lecithin Emulsifying Agents

A hydrate of vegetable lecithin is produced in fluid form by causing the lecithin of a commercial lecithin-oil mixture to react with water in the presence of an alcohol at a pH of 4-6. Crude materials containing lecithin, e. g., soybean residues, may be used instead of the lecithin-oil mixture but the cellular structure must then be destroyed by working at a sufficiently high temperature, such as 160° F. A sugar may be added as a preservative. The hydrate may be used as an emulsifier, wetting-out agent or penetrant. Helmuth Voss, Richard Fromm and Johannes Mau. British Patent No. 465,153.

Triethanolamine Saponification

In order to saponify stearin or olein with triethanolamine, it is necessary to know the saponification number of the stearin or olein being used, as well as the basicity of the triethanolamine. The proportion to use is generally in the neighborhood of 3 parts of triethanolamine to 8 parts of olein distillate, and 5 parts of triethanolamine to 11 parts of stearin. The base is diluted with water, warmed and stirred into the stearin or olein at about 80-90° C. *Seifensieder-Ztg.* **64,** 708 (1937).

Naphthenic Soap

Naphthenic soap is obtained in the purification of naphtha, but this product cannot be used as such. It is contaminated with mineral acids, which must be separated from the so-called naphthenic acids. The latter possesses a penetrating odor and contains considerable unsaponifiable matter. There are various methods of diminishing the odor and of removing the major portion of the unsaponifiable matter. Naphthenic acids prepared in this manner can be used for soap making. They have a saponification number of about 260 and soap made with them is similar to that made with soft fats. Naphthenic soap is prepared by simply neutralizing the naphthenic acids with alkali. *Seifensieder-Ztg.* **64,** 727 (1937).

Incompatible Washing Agents

Condensation products from fatty acid chlorides and aminoethanesulfonic acid agglutinate aqueous soap solutions. By the use of 1/3 parts of curd soap (60-62 per cent fatty acids) to 1 part of the above condensation products, the agglutination is so complete that the desirable properties of both washing agents are lost. It is suggested that other products containing sulfonic acid groups may produce precipitation in soap solutions. Welwart. *Seifen-Fachblatt* **8,** No. 2, 2-4; through Chem. Abs.

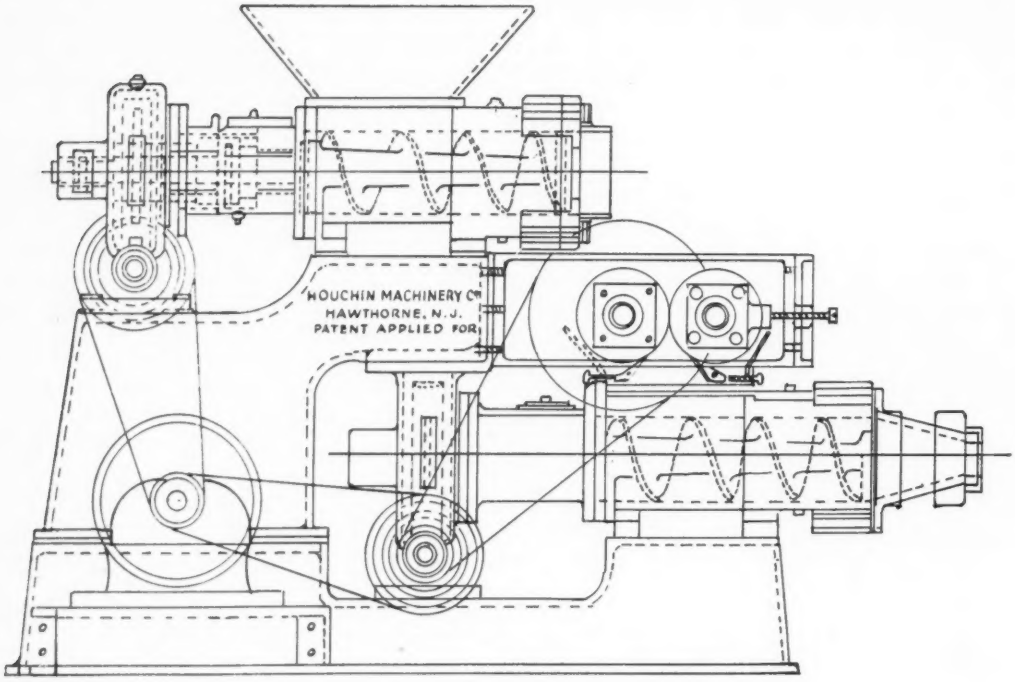
Enhancing Soap Perfume

Soap perfume can be enhanced by the addition of naphthalene. A suitable proportion is the combination of 15 per cent of perfume, 20-25 of fixative and 60-65 per cent of naphthalene. R. L. Datta and T. Basu. *Seifensieder-Ztg. 61,* 1021-3 (1937).

Washing Agent

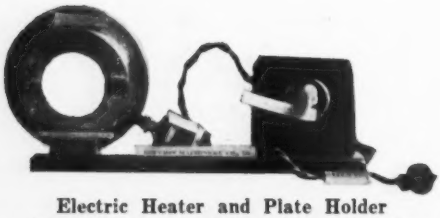
m-Aminocyclohexanol is treated with stearic acid chloride and the product in turn treated with concentrated sulfuric acid. After neutralization it possesses good emulsifying and washing action. Soc. pour l'ind. chim. a Bale. Swiss Patent No. 188,302.

HOUCHIN MACHINERY CO., INC. HAWTHORNE, N. J.



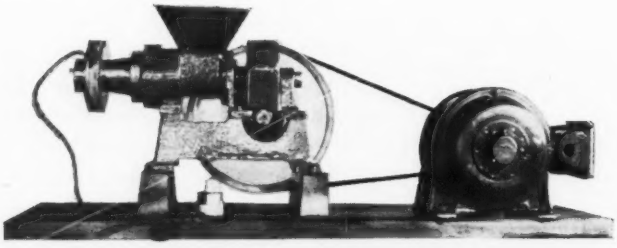
COMBINATION PLODDERS
With Double Head and Milling Attachment With Motor

Soap passing through the first time produces ribbons of soap. Second passing produces a fine finished, well compressed bar of Soap. For the second passing, remove Short Head on Second Plodder, bring Long Finishing Head in place. This Head is fitted with our Electric Heater and Plate Holder. A small stream of water passing through Plodder Cylinders and Rolls of Mill keeps the Soap cool, preventing the Soap from blistering. There is no dropping of Soap. The machine is very easily cleaned. It is excellent for short runs of Soap and saves Horse-Power.



Electric Heater and Plate Holder

By using this unit instead of steam, gas or lamp a uniform heat can be maintained. No more blistered soap. Made to fit all Plodders.



Laboratory Plodder, complete with Motor, Electric Heater, and Plate Holder.

Textile Agent Trade Names

Trade names of various commercial textile detergents, wetting agents, and emulsifying agents are given in the following list along with the chemical composition of the product:

Turkey red oil — Sulfonated castor oil, contains 3-7% combined H_2SO_4.

Prestabit Oil G—Sulfonated castor oil, contains about 19% combined H_2SO_4.

Prestabit Oil V—Sulfonated castor oil, contains about 30% combined H_2SO_4.

Monopole Brilliant Oil SO — Sulfonated, olive oil, water-soluble.

Tallosan—Sulfonated tallow, water-soluble.

Duron—Fatty acid amide.

Universal Oil BP 200—Sulfonated mineral oil.

Betan—Sodium salt of alkyl naphthalene sulfonic acid.

Nekal A, BX—Sodium salt of alkyl naphthalene sulfonic acid.

Perminal W—Sodium salt of alkyl naphthalene sulfonic acid.

Leonil N, S, SB—Sodium salt of alkyl naphthalene sulfonic acid.

Invadene B—Sodium salt of alkyl naphthalene sulfonic acid.

Alkanol B, SA, HG—Sodium salt of alkyl naphthalene sulfonic acid.

Nekal EEM—same plus gelatin as a protective colloid.

Leonil LE—Same plus gelatin as a protective colloid.

Flerhenol—Same plus trichloroethylene.

Gardinol CA, LS—Sodium salt of technical oleyl sulfate.

Gardinol WA, R, SE—Sodium salt of technical lauryl sulfate.

Duponal ME—Like Gardinol WA, but nearly free of inorganic salts.

Brilliant Avirol L 142—Sodium salt of stearyl sulfate.

Ondal—Gardinol type plus a stable form of peroxide.

Lanaclarin TA, TAV—Sodium alkyl sulfates plus fat solvents

Lanette wax—Mixture of cetyl and stearyl alcohols.

Lorol—Technical lauryl alcohol.

Ocenol—Technical oleyl alcohol.

Stenol—Technical stearyl alcohol.

Igepon A—Sodium salt of the oleic acid derivative of hydroxy ethyl sulfonic acid.

Igepon T — Sodium salt. Results from condensing fatty acid with taurin, amino ethyl sulfonic acid.

Neopol T, TB—Igepon type of compound.

Emulsamin — Igepon type of compound.

Kowapon — Igepon type of compound.

Laventine HW—Igepon T plus solvent.

Sapamine CH—HCl salt of oleic acid diethyl amino ethyl amide.

Sapamine A—Acetate salt of oleic acid diethyl amino ethyl amide.

Sapamin MS—Methyl sulfate of oleic acid diethyl amino ethyl amide.

Sapamin BCH—Benzyl chloride of oleic acid diethyl amino ethyl amide.

(The Sapamines can be said to be based on ethylene diamine).

Charles F. Goldthwait. *Am. Dyestuff Reporter* **26,** P569-80 (1937).

Adsorptive Power of Clays

Eleven clays, pulverized to pass a 200-mesh sieve, were tested as decolorizing agents for coconut oil. The power of adsorption was found to be independent of chemical analysis of the clays. From 1.52 to 6.3 per cent of the coloring matter of a commercial grade of coconut oil was removed by the 11 clays tested. Purisima T. Tolentino and Amando Clemente. *Univ. Philippines Natl. and Applied Sci. Bull.* **5,** 159-72; through Chem. Abs.

Brazilian Coconut Oil

Brazilian coconut oil was found to have an iodine index of 16.2 and refractive index of 1.4505. By fractional distillation the following acids were separated: Lauric, 45 per cent by volume, myristic 20, capric 10, caprylic 9, palmitic 7, stearic 5, oleic 2 and caproic 2 per cent by volume. J. Sampaio Fernandes and Marina Correa Lopes. *Rev. dept. nacl. produccao animal (Brazil) 3,* 123-7; through Chem. Abs.

pH of Sulfonated Oils

Two sulfonated fish oils giving fine and coarse emulsions with water were used for the study of pH determinations. The glass electrode was compared with the Wulff colorimetric procedure. With undiluted oils, equilibrium is attained in 10 minutes with the glass electrode. On dilution, the pH value is little changed until more than 50 per cent of water is present, after which it increases rapidly with further addition of water.

Values obtained by the Wulff foils are independent of dilution and about 0.8 pH unit higher than those given by the glass electrode for undiluted oils. It is apparent that the Wulff foils are insensitive in the presence of oil droplets. The pH value of the clear liquor obtained by adding potassium chloride to the emulsion is independent of the oil-water ratio in the emulsion. While such results have some interest, the pH value of the oil cannot be obtained thus. Variations of 0.1-0.2 pH unit with the glass electrode are found when the method of dilution is varied.

In dilute emulsions, the temperature of mixing has no effect on the pH of the subsequently cooled emulsion. Addition of small amounts of potassium chloride produced erratic pH variations of about 0.2 unit, suggesting that similar errors may arise at the saturated potassium chloride: emulsion interface. The effect on pH of adding small amounts of sulfuric acid or large amounts of disodium phosphate to the emulsion indicates that sulfonated oil has practically no buffering action and the sulfo acid acts like a strong acid. The pH values obtained with the quinhydrone electrode checked those made with the glass electrode at pH 6.6. G. Parsy. *J. Intern. Soc. Leather Trades Chem.* **21,** 261-74 (1937).

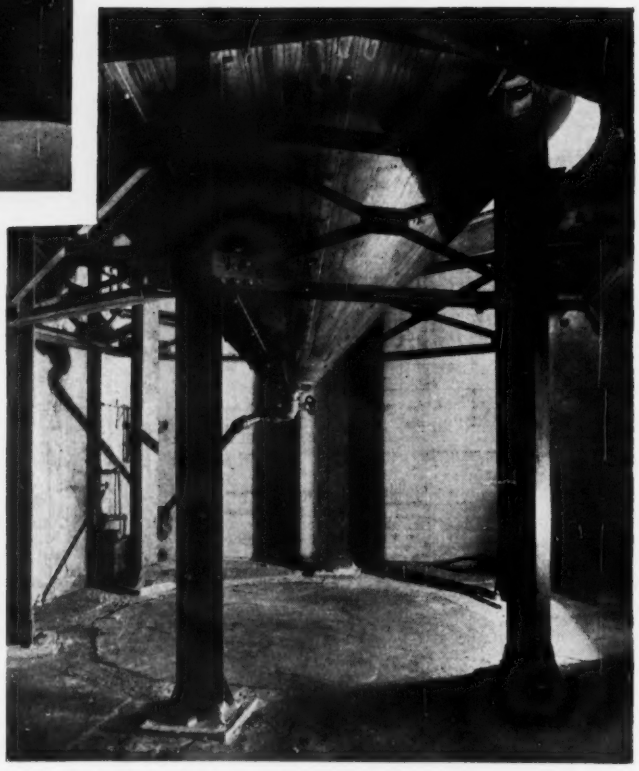
Aromatic Sulfonic Acids

Alkylated aromatic sulfonic acids are treated with a halide or anhydride of a lower aliphatic acid, such as acetone, at a temperature not over 30° C., in the presence of a strong sulfonating and dehydrating

● *Interior view of 15 ft. dia. by 29 ft. deep Nickel-Clad Steel soap boiling kettle. Built from 10% Lukens Nickel-Clad Steel by Southwest Welding & Mfg. Co., Alhambra, California for a well-known soap plant.*

Clad with Nickel from

TOP *to* BOTTOM



● *View showing conical bottom of same kettle, with 4" Pure Nickel outlet pipe. Cover of this kettle is also Nickel-Clad Steel, resistant to caustic and fatty acid fumes and steam.*

. . . *free from* RUST AND HARMFUL CORROSION PRODUCTS

GUARD against corrosion *above the airline.* As you know, it's essential in giant kettles like these. Why limit the safeguards to this zone alone? Make kettles contamination-proof from top to bottom—build them of Nickel-Clad Steel.

This economical bi-metal brings to your product the perfect protection of Pure Nickel. You save by protecting the high purity of your costly soap ingredients. You safeguard your fine soap from contamination with corrosion products which are a common cause of rancidity, spotting and discoloration. You save, too, on repairs . . . on replacements.

For Lukens Nickel-Clad Steel provides just the amount of Pure Nickel you need. Freedom from rusting and corrosion, together with long life for equipment, are assured by a 10% to 20% cladding. The remaining thickness is a backing of steel—the two firmly bonded into solid plate. Produced by Lukens Steel Company—in the world's largest plate rolling mill—Nickel-Clad Steel is readily formed and fabricated. It is welded at all Nickel surfaces with Pure Nickel welding wire—so that nothing but Nickel can touch your product.

It's good business to prevent corrosion in soap kettles above the airline. It's better business to eliminate the cause of contamination clear through from top to bottom.

Write for further information on Nickel-Clad Steel. Ask for "Lukens Nickel-Clad Steel", "Nickel and Monel in the Manufacture of Soap", and "Methods for the Fabrication of Nickel-Clad Steel Plate". Address:

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL ST., NEW YORK, N. Y.

agent. An acyl radical is thus introduced into the sulfonic acid molecule. The products are useful as wetting, washing and emulsifying agents. Oranienburger chem. Fab. A.-G. German Patent No. 647.290.

Cellulose in Liquid Soaps

The sodium salt of lignin sulfonic acid is recovered from sulfite-cellulose liquor and sold as a yellow powder under the name of "Zewa powder SAP." When added to soap in the proportion of 2-5 per cent it has a favorable effect on foaming power. When added in large amounts, such as 30-50 per cent, it causes no decrease in the natural foaming ability of the soap to which added. Formulas using this product in liquid soaps are as follows:

1. Normal type

50 parts of liquid potassium soap (20%), containing equal parts of coconut oil and other plant oils or their fatty acids
45 parts of a 10% solution of Zewa powder in distilled water
4 parts of a 5% solution of potash in distilled water
1 part perfume

2. Highly concentrated

75 parts of liquid potassium soap (35%), containing 90% coconut oil and 10% castor oil
20 parts of a 20% solution of Zewa powder in distilled water
5 parts of Lamepone PhA

3. High proportion of Zewa product

50 parts of liquid potassium-coconut oil soap (20%)
40 parts of a 20% solution of Zewa powder in distilled water
10 parts of a 5% solution of potash in distilled water.

The solutions are brown in color when concentrated and a lighter yellow in dilute solution. Josef Augustin. *Deutsche Parfumerie-Ztg. 23*, 337-9 (1937).

A very pure methyl ester of lauric acid was converted by heat (150° C.) into free aldehyde, although only in the presence of oxygen. Thus it was established that free aldehyde may be liberated, as in fats, from a saturated compound. H. Schmalfuss, H. Werner and A. Gehrke. *Margarine-Ind.* **29,** 31-2; through Chem. Abs.

Rice Oil

The fatty acids from crude rice oil were esterfied and then fractionally distilled. The lowest fatty acid found was palmitic acid and the highest stearic acid. The existence of a fatty acid of more carbon atoms than C_{18} was indicated. Stearins were prepared from the crude oil by refining and hydrogenating and then distilling under vacuum. They were white and odorless. Commercial oleins were prepared from refined raw oils by partial hydrogenation. They were suitable for technical purposes. An ethyl ester was prepared from crude rice oil by heating it for hours with twice its weight of absolute alcohol in 1 per cent sulfuric acid and then distilling under vacuum. Seiichi Ueno. *J. Soc. Chem. Ind. Japan 40*, Suppl. binding 200-2 (1937); through Chem. Abs.

Carotene on Fatty Oils

The action of carotene on the oxidation of fatty oils varies with the kind of oil and in some cases with the concentration of carotene. Carotene also varies in stability according to the kind of oil in which it is dissolved: it is most unstable in tsubaki oil, moderately stable in linseed oil and most stable in corn oil. Moderate unsaturation in fatty oils is considered necessary for the highest stability of carotene. Mitsuo Nakamura. *J. Soc. Chem. Ind. Japan 40*, Suppl. binding 203-5 (1937); through Chem. Abs.

Gasoline from Cottonseed Foots

Cottonseed-oil foot stock, obtained from oil refined with caustic soda and containing about 40 per cent of water, 40 per cent of fatty matter and 20 per cent of alkali and impurities, is dried first in the sun and then in an oven. The dried product is powdered and then dry-distilled, yielding a gasoline substitute among other products. This gasoline, after refining, is essentially the same as natural gasoline except for its odor and high iodine value. Very satisfactory results are obtained with it on actual road tests. From 400 pounds of the original wet foot stock 5 gallons of refined gasoline, 7.3 gallons of crude kerosene, 77.2 pounds of coke, 31.5 pounds of soda ash, 13.2 pounds of ammonia liquor and 489 cubic feet of combustible gas can be obtained. Yung-Sheng Chao. *J. Chem. Eng. (China) 4*, 169-72 (1937); through Chem. Abs.

Moisture in Vegetable Oil

Shake 10-15 grams of oil with 1-2 grams of 88-90 per cent glycerine in a test tube for 5 minutes, centrifuge for 1-2 minutes, shake again for 2 minutes and again centrifuge for 2 minutes. Withdraw the glycerine from the tube and determine its refractive index. The percentage of moisture in the oil is equal to

$$0.03 + \frac{(760(n_0 - n)p)}{m}$$

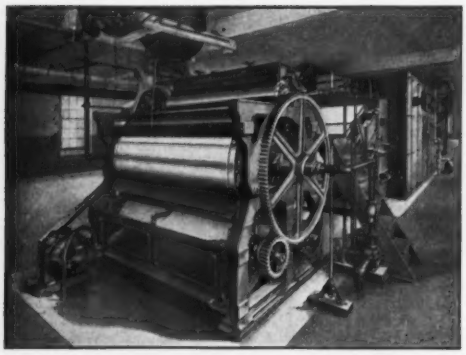
where 0.03 is the correction for the residual moisture in oil, n_0 and n are the refractive indexes of glycerine before and after extraction, p is the weight of glycerine and m that of oil. The accuracy of the refractometer method is 0.02 per cent.

The interferometer can be used instead of the refractometer. In that case in the formula 760, n_0 and n are replaced by 0.002, s_1 and s, respectively, which are the number of divisions on the interferometer scale before and after extraction. The accuracy of this method is 0.014 per cent. P. Z. Zaichenko, V. P. Rzhekhin and N. I. Pogonkina. *J. Applied Chem. (U.S.S.R.) 10*, 908-16 (1937); through Chem. Abs.

Essential Oil Light Absorption

Examination of a number of essential oils with respect to their absorption of ultra-violet light shows that the measurement of absorption in the ultra-violet region is useful in many cases as a means of identifying the oils and also to detect adulteration. In special cases it is possible to make quantitative determinations of one or more compounds. D. Van Os and K. Dykstra. *Les Parfums de France 15*, 194-208 (1937).

PRODUCING THE PERFECT CHIP FOR ALL SOAP MAKING NEEDS



● New Type Proctor Chip Soap System producing extremely thin chips of textile soap in new plant of Original Bradford Soap Co., River Point, R. I.

● The New Proctor Chip Soap System produces the thinnest of chips . . . chips perfectly formed in long ribbons, evenly thin from edge to edge, uniformly dried free from hard overdried particles or underdried spots. These chips make cleaner, whiter, quicker-dissolving laundry flakes. They make smooth-surfaced, clear-colored toilet cakes. They give quicker, better milling and plodding. They give quicker, easier grinding into powdered soaps . . . with less loss in dust. New high speed chilling roll . . . spray-cooled, pump-drained, precision-ground, smooth-surfaced. New drying machine . . . with revolutionary improvements in principal details of design . . . more efficient, more economical, cleaner in operation. Write for your copy of our new descriptive Bulletin No. 72.

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No. 2,092,308, Insecticidal Dust, Patented September 7, 1937 by Charles B. Gnadinger, Minneapolis, Minn. A moist, cakable, insecticidal product comprising an extract of pyrethrum carried by a non-volatile solvent therefor, and an inert filler.

No. 2,092,913, Detergent Composition, Patented September 14, 1937 by Augustus H. Fiske, Warren, R. I., assignor to Rumford Chemical Works, Rumford, R. I. A detergent composition containing a detergent having a cleansing action and an alkali metal salt of tetraphosphoric acid.

No. 2,093,660, Cleaning Composition, Patented September 21, 1937 by Malcolm E. Rockhill, Washington, D. C. A composition particularly suited for cleaning polished scratchable surfaces having approximately the following composition:

	Pounds
Whiting	250
Feldspar about 95% of which will pass a 400 mesh sieve	250
Sodium salt of the sulfuric acid ester of oleic amide	12.5
Water	125

No. 2,093,927, Soap Builder, Patented September 21, 1937 by Walter C. Preston, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati. A soap builder suitable for improving the water softening, sudsing and detergent properties of water-soluble soap and suitable for use with water-soluble soap in any proportion needed for varying cleansing requirements and for water of various degrees of hardness without increasing the alkalinity of the soap product beyond a predetermined low point, comprising a mixture of tetra-alkali-metal pyrophosphate with a sufficient proportion of a compound selected from the group consisting of acids and acid reacting salts, to reduce the alkalinity of the pyrophosphate so that it will have the general average formula

$$MxH_4—xP_2O_7$$

wherein M represents an alkali metal and x has any value less than 4 but not less than 3.54.

No. 2,093,928, Liquid Soap, Patented September 21, 1937 by Walter C. Preston, Cincinnati, and Herbert S. Coith and Robert A. Duncan, Wyoming, Ohio, assignors to The Proctor & Gamble Company, Cincinnati. A liquid soap prepartion, clear at ordinary temperatures, comprising hard water containing in solution three to thirty per cent of a water-soluble soap and a sufficient quantity of a water-soluble substance to prevent precipitation of the hardness constituents of the water by the soap at ordinary temperatures, the substance consisting essentially of a water-soluble pyrophosphate having the average formula $MxH_4—xP_2O_7$, in which M represents an alkali metal and x has any value between 4 and 3.54.

No. 2,093,971, Stabilization of Glyceride Oils against Oxidation, Patented September 21, 1937 by Sidney Musher, New York, N. Y., assignor to Musher Foundation Incorporated, New York, N. Y. A refined glyceride selected from the group consisting of oils and fats subject to rancidity carrying a small percentage of a direct infusion of sesame seed including anti-rancidity constituents sufficient to inhibit substantial rancidity in the glyceride, the glyceride being substantially free from seed fibers.

Phenols in Cotton Oil Refining

With increasing concentration of gossypol in cottonseed oil, the alkali refining of the oil improves. Since the polyphenolic character of gossypol has been well established, it was of interest to investigate the effect of additions of phenol and phenolic compounds on alkali refining. Crude oil was treated wtih 0.3 per cent of phenol, with dry oak extract, sulfonated oak extract, gallic acid and tannin in the cold, and, after heating to 100°C. and allowing to stand overnight at room temperature, the oil was gradually stirred with 100 per cent excess of 10 per cent caustic soda solution at 30-80°C. The oil was filtered from the soapstock, bleached with 2 per cent of floridin at 60-100°C. and then freed from phenols by washing 3-10 times with 2 volumes of boiling water. The preliminary results show that the alkali refining is greatly improved by addition of phenols, resulting in lowered coloring of the oil and greater yields of the refined product. The method is more effective with defective oils than with normal oils. Addition of phenol gave the best result. M. S. El'gort and N. V. Ionova. *Masloboino Zhirovoe Delo* **12,** 548-9; through Chem. Abs.

Comparison of Iodine Values

For some oils, the results of various methods for determining iodine number differ from one another. The following methods do not show significant differences from one another when the probable errors are 0.05 and 0.01: For oleic acid, none of the four methods of Hübl, Wijs, Hanus and Margosches, and Hinnes and Friedmann; for linolic acid, the methods of Hübl and Hanus, and of Wijs and Hanus; for erucic acid, the methods of Wijs and Hanus; for triolein, the methods of Wijs and Hanus; for trilinolin, none of the methods. K.d'O.C.C. Netto. Ministerio da Agr. Lisbon, *Estudos Quimicos. Bol.* No. **21,** 1-71; through Chem. Abs.

A stipulation to cease the use of false and misleading advertising in the sale of medicated soaps and other preparations for the relief of foot trouble, has been entered into with the U. S. Federal Trade Commission by Scholl Manufacturing Co., 211 West Schiller St., Chicago.

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The first entirely original American book on soap manufacture in 20 years. Thoroughly covers every phase of soap manufacture and glycerine recovery. Written by practical soap men . . . a truly practical book. 450 pages.

Contents

I RAW MATERIALS. Fats, oils, fatty acids, alkalies, perfuming materials, etc. Their selection, grades, constants, suitability, markets, etc. Methods of oil and fat refining, bleaching, storing, etc. 60 pages.

II MACHINERY AND EQUIPMENT. Types and uses of soap plant equipment. Diagrams of modern plant lay-outs, machinery arrangement, oil refining plant, etc. 12 pages.

III SOAP MAKING METHODS. Full practical description of soap making processes, full-boiled, semi-boiled, cold process, potash soaps, sprays processes, etc. Complete details from material selection, kettle charging, through to finished soap—for all types of soaps, detailed according to processes. Numerous diagrams and plant views. 110 pages.

IV SOAP PRODUCTS. Every known type of soap described with raw materials, manufacture, characteristics, uses, etc. Soap manufacture described in this chapter according to products and their uses. Laundry, toilet, potash, medicinal, etc., soaps, soap powders, scouring powders, spray process soaps, chips, flakes, shampoos, etc. 101 pages.

V GLYCERINE RECOVERY AND REFINING. Recovery methods for glycerine with designs of plant lay-out and equipment. Continuous glycerine distillation. Full description from the kettle to the finished product. Also discussion of fat splitting methods, fatty acids, distillation and refining, and allied processes. 50 pages.

VI ANALYTICAL METHODS. Methods of sampling and chemical analysis for control during process and analysis of finished products. Analysis oils, fats, soaps of all kinds, glycerine, etc. Includes official methods of analysis for numerous products. 75 pages.

APPENDIX—Contains all needed reference tables, constants of oils and fats, alkali values, conversion tables, U. S. Government specifications for various soap products, and other valuable data.

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New Equipment

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

399—Dispenser Cap

Bussler Mfg. Co., Cleveland, has just introduced a new type dispenser cap for use on bottles of shampoo, liquid soap, polishes,

cleaners, toilet preparations, etc. The discharge nozzle is equipped with a special locking device which operates by merely twisting the protruding stem. When in the closed position, discharge of the liquid while traveling is impossible. The cap is of "Durez" acid-resisting resin, a product of General Plastics, Inc. Molding done by Atlantic Plastic & Metal Parts Co.

400—New Container Washer

U. S. Bottlers Machinery Co., Chicago, manufacturer of filling, filtering and washing equipment, has recently developed a new machine for washing and drying containers. The new equipment is said to be unusual for handling certain classes of products where an absolutely clean and dry container is essential at the moment of filling. The new machnie will handle all sizes and shapes of containers from 1/4 oz. to gallons or larger. Further information regarding this machine may be obtained by writing the publishers of SOAP or the manufacturer.

401—New Mixer

Mixing Equipment Co., Rochester, N. Y., has just brought out a new side-entering propeller type mixer incorporating a new type of stuffing box and bearing design which it is said eliminates troubles previously arising from this source. In the new model the stuffing box, itself, has no contact with the shaft. This eliminates contamination of the mix from stuffing lubricants and prevents any damaging contact between the tank contents and the bearings. Further particulars about the new device are available from the manufacturer.

Publications

403—Du Pont Aromatics

E. I. DuPont de Nemours & Co., Wilmington, Del., have just issued a new catalog for the Aromatics Division. Odors are divided into six groups,—rose, jasmine, violet, lilac, lily-of-the-valley, and oriental types. Specialties are listed for the soap manufacturer as well as for the manufacturer of insecticides and disinfectants. Several tables are included, giving useful data on some of the common synthetics. Copies of the catalog are available on request.

404—Rosin Residue

Hercules Powder Co., Wilmington, has issued a new folder describing the use of rosin residue emulsion as a spreader for sprays in the control of insects attacking shrubs, trees, and flowers. It is particularly recommended for use with ground derris root. This combination can be used with safety on all types of foliage as it leaves no poisonous residue. The rosin emulsion can also be used with other insecticidal materials such as pyrethrum, nicotine, and lead arsenate. Copies of the folder are available.

405—Packaging Booklet

Triangle Package Machinery Co., Chicago, has just mailed the latest issue of its house organ, *Practical Packaging*. A number of packaging tips are included in this latest edition. Copies are available on request.

406—Essential Oil List

Magnus, Mabee & Reynard, Inc., New York, have just issued a new abridged list of essential oils, balsams, and allied products. Copies are available on request.

407—Red Squills

S. B. Penick & Co., New York, have recently issued a 16-page booklet describing the use of red squills in rodent control. The booklet gives information about the origin of squill bulbs, reproduces the U. S. Dept. of Agriculture's standard physiological test on rats, and gives full particulars as to procedure in preparing baits. Reference is also made to "Rodine", a Penick concentrated fluid extract of squills, and the preparation of "Rodine" baits. Copies of the booklet are available either through S. B. Penick & Co., or by writing direct to SOAP.

408—Agfa Catalog

The Agfa Aromatic Division of General Drug Co., New York, has just issued a catalog of its perfuming materials and their uses. Special bouquets for use in soap perfuming are listed. Copies available on request.

409—Personnel Policies

McCormick & Co., Baltimore, have recently issued a booklet giving full particulars about many of the progressive personnel policies under which this company is operated. The booklet explains fully the four McCormick governing boards,—the se-

(*Turn to Page* 127)

The Colgate Clock

(*From Page* 37)

seconds on the dial 157 feet in circumference. The escapement shaft is connected with driving weights that are raised automatically by a motor.

The twelve numerals on the clock are mere coffin shaped black painted blocks, seven feet high and two feet five inches wide at the widest part, as this makes the clock more readable at a distance than actual figures. A red neon tube illuminates each of these markers at night. The minute hand 27 feet 3 inches long, and weighing 2200 pounds with the counterweight, has a row of 172 incandescent lamps outlining it. The hour hand, 19 feet 6 inches long, weighing 1,725 pounds with the counterweight has 67 lamps.

The Newer Detergents

(*From Page* 33)

base. Thus, water-free pyridine is treated with chlorosulfonic acid to give pyridine-sulfotrioxide. This is added to castor oil to give sulforicinate. The products are used in the textile industry.

Dutch Patent No. 38,445, June 15, 1936, to the N. V. Chemische Fabrik "Servo" and M. D. Rozenbroek, covers sulfonation products of fatty acids and their derivatives prepared by sulfonating the acids in the presence of condensing agents, such as phosphorus trichloride. The unneutralized sulfonation mixture is treated with monoalkyl esters of sulfuric acid, with sulfates or with the lower monohydric alcohols. For example, sulfonated castor oil is treated with sodium amylsulfate and neutralized.

According to French Patent No. 808,632, February 11, 1937, to J. Feytaud and P. de Lapparent, salts of copper, for example, copper sulfate or acetate, may be incorporated with terpenic products, such as turpentine or pine oil or terpenolene, after the addition to the latter of alkali sulforicinoleates, salts of the fatty alcohols, or any other soap. The products are used as disinfectants, insecticides, etc.

A. Kammer, in French Patent No. 808,669, February 12, 1937, proposes to bleach raw cotton in a boiling bath containing at least 2 per cent, and preferably 2 to 4 per cent, of Turkey-red oil and hydrogen peroxide or compounds liberating active oxygen, such as peroxides or other per salts. The bleached cotton is treated with a very dilute, say a 0.5 per cent. solution of sodium carbonate and then with a very dilute, about 0.1 per cent. solution of hypochlorite or hydrogen peroxide.

In British Patent No. 463,644, April 5, 1937, to W. W. Grove for the I. G. Farbenindustrie A.-G., a salt of a carboxylic acid of the general formula $H(CH_2)m.X.(CH_2)n$COOH, where X is one of the divalent radicals oxygen, sulfur, NH or N-alkyl, and *m* and *n* are either one or a whole number but *m* plus *n* equals at least 3 and does not exceed 9, is useful as a mercerizing assistant. The salts of these acids, which, in aqueous solution, have themselves no wetting properties, are excellent wetting agents in caustic soda solutions of mercerizing strength. They are advantageously used in combination with phenols, highly sulfonated oils, or solvents, such as glycol ethers.

M. De Groote, in United States Patent No. 2,087,506, July 20, 1937, assigned to the Tretolite Company, covers quaternary ammonium salts of high molecular weight and useful as wetting, washing, frothing, emulsifying, dispersing, softening, leveling and plasticizing agents in the textile and other industries. These are produced by treating a tertiary amine, such as triamylamine or pyridine, with halohydrins, such as the chlorohydrins from ethylene glycol or glycerol, and utilizing the resulting product for the neutralization of products such as those derived from the sulfation of castor oil or mahogany acids, such as are produced in petroleum refining, or mono- or di-phthalated ricinolein. Numerous examples are given.

(The next installment of this paper will cover the higher fatty alcohols and related products which are now so much in vogue.—The Author.)

Aldehydes in Purified Fats

The observation that lauric acid is apparently more easily partially oxidized to aldehyde under the influence of heat than the unsaturated soybean oil, while the reverse would be expected, led to investigation of the effect of heat on aldehyde formation. Two cc. of oil were heated in a sealed tube for from 5 minutes to 96 hours at 120°, 150° and 180° C. and the aldehyde and epihydrinaldehyde contents determined.

All of the materials tested showed aldehyde formation at all 3 temperatures. Coconut oil, palm-kernel oil, glycerine and paraffin oil showed a definite rise in aldehyde content, a peak and then a decline. These phenomena were less marked in the case of soybean and peanut oils; the decline was still less marked in the case of lauric acid, its methyl ester and the methyl ester of caprylic acid. Coconut and palm-kernel oils showed greater aldehyde formation than glycerine and lauric acid. Epihydrinaldehyde formation occurred between 120° and 180° only in coconut, palm-kernel, soybean and peanut oils. Its formation also showed an increase, a peak and decline. Formation of aldehyde and epihydrinaldehyde was the more rapid the higher the temperature. Coconut and palm-kernel fats tended most strongly to aldehyde formation. Aldehyde formation was several hundred times greater in the case of saturated fats than in that of unsaturated. The four fats showed about equally marked epihydrinaldehyde formation. Aldehyde and epihydrinaldehyde formation increased and decreased simultaneously and in the same manner. The decrease took place several hundred times more slowly than the increase; therefore long after destruction of the compounds began they could still be detected. H. Werner. H. Schmalfuss and A. Gehrke. *Margarine-Ind.* **29,** 4-8; through *Chem. Zentr.*

The Mexican Government has placed an export duty of five cents per pound on candelilla wax. The duty became effective the middle of last month.

Sanitary Products SECTION

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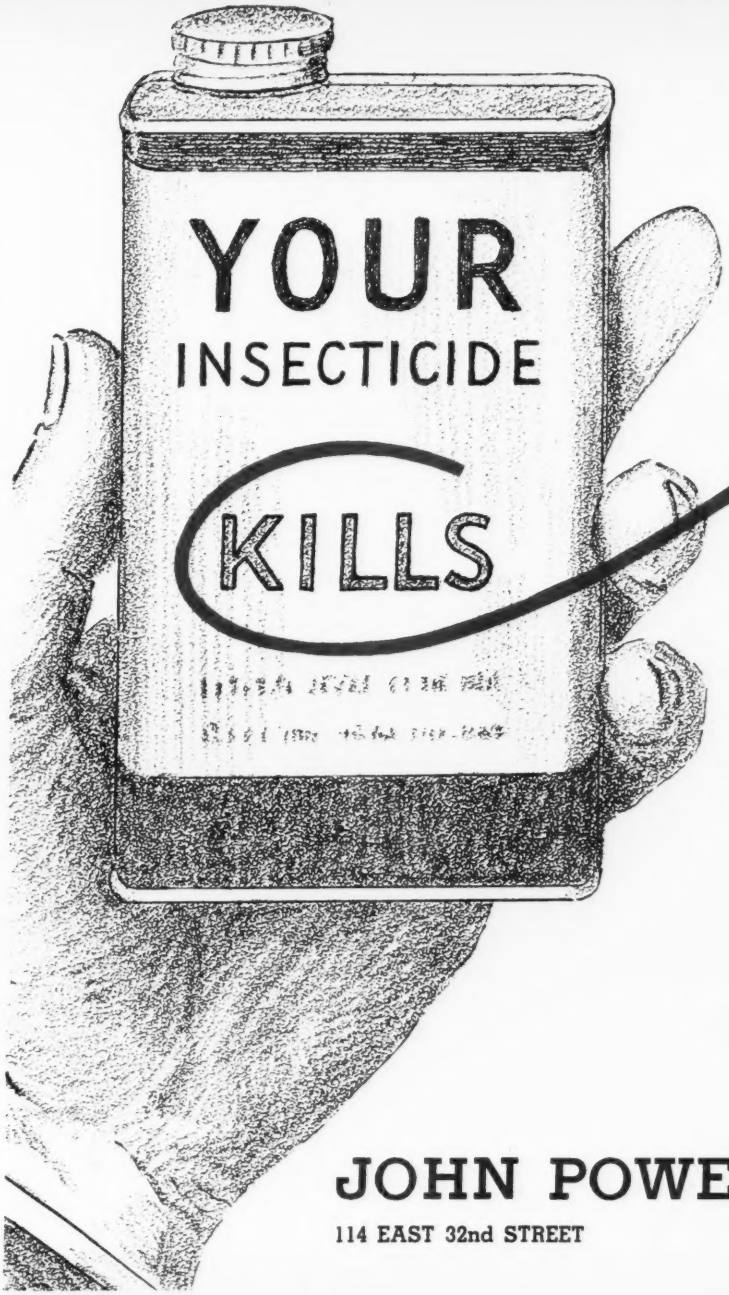

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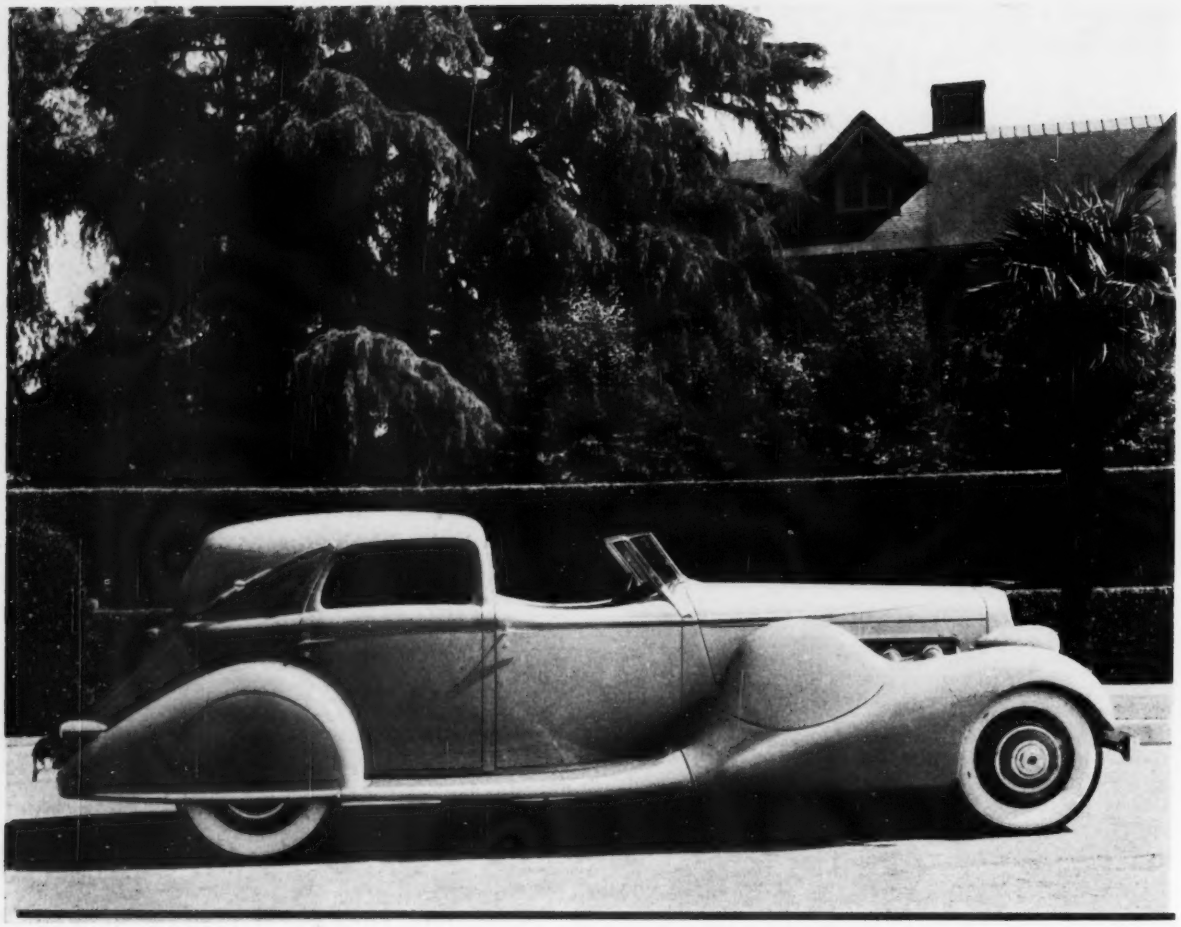

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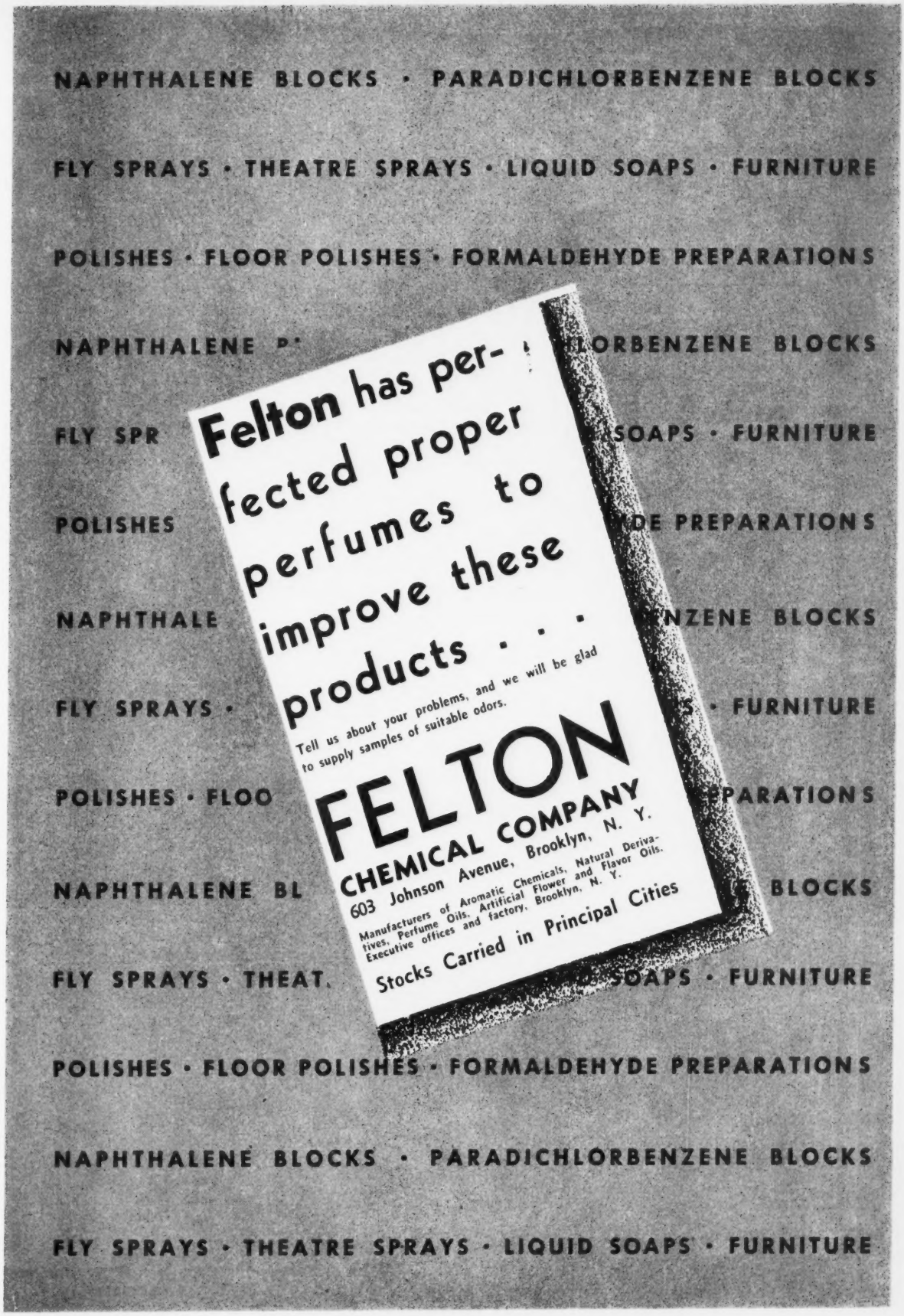
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GERMICIDAL TEST

F. D. A. (Food & Drug Administration) Method

Organism—B. typhosus (Hopkins).

Age of culture—24 hours at 37 Degrees C.

Medium—Standard beef extract broth (pH 6.8).

Peptone—Armours Special.

Organic matter—none.

Temperature of medication—20 degrees C.

Dose—0.5 cc. of unfiltered culture to 5 cc. of diluted disinfectant.

Subcultures—one 4 mm. loopful to 10 cc. of broth.

The subcultures were incubated for 48 hours at 37 degrees C. with the following results:

Sample	Dilution	Minutes of Exposure 5	10	15
No. 3797 Tank 21 2/18/35	1:1700	—	—	—
	1:1800	—	—	—
	1:2000	—	—	—
	1:2200	—	—	—
Phenol	1:80	—	—	—
	1:90	—	—	—

$\therefore$ Phenol Coefficient $= \frac{1700}{80} = 21.0$

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SANITARY PRODUCTS

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

LACKING but one year of a quarter-century of activity, the National Association of Insecticide & Disinfectant Manufacturers will hold its 24th annual meeting in New York on December 6 and 7 at the Hotel Biltmore. With Washington getting active in the field of fly sprays, with the label situation in California in a muddle, with new disinfectant and insecticide specifications about to be sent broadcast,—plus numerous other matters of importance to every firm in the disinfectant, insecticide, and sanitary products industry to be taken up,—the meeting appears to be a good one *not* to miss.

A BLUNT warning has come from the Food & Drug Administration in Washington regarding the quality of some liquid household insecticides on the market at the present time. The Administration states that its investigations show that some manufacturers are making their fly sprays to conform to a price schedule in order to meet competition, and that the effectiveness of these sprays is not receiving proper consideration. They point out that a buyer of liquid insecticide is justified in expecting a product which represents the equivalent of one pound of good grade pyrethrum to each gallon of mineral oil. The Administration concludes that unless steps are taken to keep low grade products off the market, that is products which are deficient in killing ingredients, all fly sprays will be adversely affected.

This warning from Washington and recent reports that certain fly sprays have been picked up by agents of the Department, and at least one well-known company cited, represent the first intimation which the insecticide industry has had that the Food & Drug Administration intends to move against low grade sprays under the Insecticide Act of 1910. That the elimination of cheap, ineffective insecticides would be a good thing for the industry, is unquestioned. That the manufacturer of products of standard strength or better has nothing to fear, is, we hope, a fact. But at any rate, this question of low grade sprays will be dragged out into the open, where it should be. It is a matter which will of necessity receive close and serious consideration at the annual meeting of the National Association of Insecticide & Disinfectant Manufacturers next month.

THAT the present pyrethrum situation is loaded with dynamite is quite apparent. In fact, any raw material which originates in Japan or China is liable to cause manufacturers who are dependent upon it, some trouble before things quiet down. If we were a manufacturer of insecticides, we would be inclined to make sure that our pyrethrum supply for 1938 was in the offing. Frankly, we do not believe that the present is the most opportune time to split nickels and dimes in covering pyrethrum requirements. No serious interference with the supply may happen. At the same time, the stage is set for just such a happening, and it is better to be safe than sorry.

Summary of Patents for

Disinfectants and Insecticides

By Dr. R. C. Roark
Division of Insecticide Investigations
Bureau of Entomology and Plant Quarantine

PATENTS covering disinfectants, germicides, household and agricultural insecticides, and products of an allied nature, which were extracted and reviewed since the first of the current year as part of the regular service of Dr. Roark's division of the Department of Agriculture, have been selected and outlined in the following summary. Only patents for products of an insecticidal or germicidal nature are included here, although devices and equipment are covered in the regular monthly publications by Dr. Roark.—THE EDITORS.

Germicidal Preparation. 2,070,080 Merrill C. Hart, Kalamazoo, Mich.—Upjohn Co., Kalamazoo, Mich. — A germicidal preparation comprises orthohydroxyphenylmercuric chloride in such concentration that alone it would be merely bacteriostatic, and an amyl cresol.

3:6-Diamino-10-Methyl-Acridinium Methane-Sulphonate. 2,070,163 Paul L. Gailliot, St. Maur-des-Fosses, France—Societe des Usines Chimiques Rhone—Poulenc, Paris, France—The patentee claims as a new article of manufacture 3:6-diamino-10-methyl-acridinium methane sulphonate. 3:6-diamino-10-methyl-acridinium chloride is definitely more active against certain micro-organisms than 3:6-diamino-acridine hydrochloride.

Compounds Useful Against Moths. 2,070,350 Jakob Bindler, Basel Switzerland—J. R. Geigy S. A., Basel, Switzerland—A process for the manufacture of compounds useful for protection against moths, comprises condensing N-(benzyl-sulphonic acid)-isatin with thymol.

Isatin Compounds Against Moths. 2,070,351 Jakob Bindler, Basel, Switzerland—J. R. Geigy S. A., Basel, Switzerland—A process for the manufacture of compounds useful for protection against moths, comprise condensing isatin-5-sulphonic acid with thymol.

Isatin Compounds Against Moths. 2,070,352 Jakob Bindler, Basel, Switzerland—J. R. Geigy S. A., Basel, Switzerland—A manufactuer of compounds useful for protection against moths, consists in condensing 6-chloro-isatin-5-sulphonic acid with paraschloro-phenol.

Isatin Compounds Against Moths. 2,070,353 Jakob Bindler, Basel, Switzerland—J. R. Geigy S. A., Basel, Switzerland—A compound useful for protection against moths consists of a product of condensation of isatin-5-sulphonic acid with 2:4-dichlorophenol.

Xanthic Formates. 2,070,634 James H. Werntz, Wilmington, Del. —E. I. du Pont de Nemours and Co., Wilmington, Del. — The patentee claims an aliphatic ester of a xanthic formic acid, said ester containing at least one aliphatic hydrocarbon radical having at least eight carbon atoms. These compounds are for use as insecticides, flotation agents, and rubber accelerators. Examples are the methyl ester of octyl xanthic formic acid, dodecyl xanthic formic acid, tetradecyl xanthic ester of octyl xanthic formic acid, N-methyl N-ethyl amide of dodecyl xanthic formic acid, etc.

Chemical. 2,071,091 Maurice C. Taylor, Niagara Falls, N. Y.—Mathieson Alkali Works, Inc., New York, N. Y.—A fungicidal and bactericidal solution comprises chlorous acid in a medium which has a pH value less than about 7.

Deodorant. 2,071,094 George P. Vincent, Niagara Falls, N. Y.—Mathieson Alkali Works, Inc., New York, N. Y.—A deodorizing composition comprises a briquetted dry mixture of a soluble chloride, and acidifying agent and a filler of lower solubility whereby disintegration of the briquets when in contact with water is retarded.

Insect Repellent. 2,071,484 George G. Wittwer, Chappaqua, and Mahlon H. Beakes, Larchmont, N. Y. — American Cyanamid Co., New York, N. Y.—An insecticidal composition comprises pyrethrum extract, a cocoanut fatty acid derivative of a dixylyl guanidine, and a free cocoanut fatty acid, in solution in naphtha.

Preservation of Packaged Food Products. 2,071,625 Louis W. Haas, Chicago, and John W. Read, Glen Ellyn, Ill.—W. E. Long Co.—A package material for enclosing bakery products comprises a dry wrapping member impregnated with chlorazene and dichloramine for liberating a germicidal gas when said member encloses said product while in a warm condition.

Composition. 2,071,875 Max Engelmann, Wilmington, Del.—E. I. du Pont de Nemours and Co., Wilmington, Del.—A micro-organism devitalizing composition of matter comprises a solution containing as the active ingredient thereof a compound taken from the class consisting of trifluoro-methyl-phenylazo-phenylene diamines and the acid addition salts thereof.

Halogen Derivatives of Alpha-Ethyl Propyl Cresols. 2,071,939 George W. Raiziss and Le Roy W. Clemence, Philadelphia, Pa.—Abbott Laboratories, North Chicago, Ill.—The patentees claim monobromo (alpha-ethyl propyl) meta-cresol, monobromo (alpha-ethyl propyl) ortho-cresol, dichloro (alpha-ethyl propyl) meta-cresol. These possess surprisingly high germicidal values and low toxicity.

Germicidal Compositions. 2,073,021 Raymond C. McQuiston, West

Newton, Mass.—Twenty-five percent to Errold B. Thomas, Newton, Mass., and twenty-five percent to Calvin B. Smith, Boston, Mass.—A method of producing germicidal agents comprises triturating elemental iron and an excess of elemental iodine in an aqueous vehicle while maintaining the temperature below 180° F.

Water-Soluble Bactericidals. 2,073,057 Paul Goedrich, Elizabeth, N. J.—The patentee claims as new products, solutions of phenolic water-insoluble bactericidal compounds in substantially protein-free sulphonated fatty oils, having a honey-like consistency and color, and making clear aqueous solutions. For example ten pounds of chlorthymol are dissolved at about 40° C. in a Turkey-red oil of about pH 8, largely but not entirely de-proteinized, and then a sufficient quantity of a polyhydric alcohol, glycerin for instance, is added to maintain a clear solution.

Organic Chlorine Compounds. 2,073,256 Franz C. Schmelkes, Montclair, and Henry C. Marks, Belleville, N. J.—Wallace & Tiernan Products, Inc., Belleville, N. J. — The patentees claim a solution of an organic N-chloro compound containing available chlorine in an ester formed by completely esterifying an alcohol of the group consisting of glycerol, glycol, ethyl alcohol, propyl alcohol and butyl alcohol with an acid of the group consisting of acetic and propionic acids. The chief use of such compounds is as disinfectants.

Paratertiary - Octyl - Nitro - Phenols. 2,073,316. Joseph B. Niederl, New York, N. Y.—Rohm & Haas Company, Philadelphia, Pa. — The patentee claims a p-tertiary octyl phenol having at least one nitro group substituted in the benzene ring said compound being prepared by the nitration of p-tertiary octyl phenol. The chlorine derivatives of the tertiary octyl phenols may be obtained by treatment with chlorine or sulfuryl chloride. The products are extremely potent germicides, insecticides and important intermediates for the preparation of other materials.

Impregnating Composition. 2,073,634 Olaus T. Hodnefield and Warren W. Shartel, Los Angeles, Calif.—Olaus T. Hodnefield, Los Angeles, Calif.—An impregnating composition, comprises the reaction product of a solution of ammonium sulphate, ammonium phosphate, boric acid, colemanite, sodium fluoride, carbolic acid, mercuric chloride, zinc chloride, barium hydroxide, aluminum ammonium sulphate, tin chloride and copper sodium alginate. This composition for the impregnation of exposed objects renders them immune to the destructive action of insect life, weather proof and fireresistant.

Diphenyl Derivatives. 2,073,683 Walter G. Christiansen, Glen Ridge, N. J., Sidney E. Harris, Lynbrook, N. Y., and John Lee, Zurich, Switzerland—E. R. Squibb & Sons, New York, N. Y. — The patentees claim lower-aliphatic-acylamino alkoxy diphenyls, the substituents being attached to carbons of the same benzene nucleus. For example 2-hydroxy 5-n-butyl diphenyl, 2-hydroxy 5-n-valeryl diphenyl, and 2-ethoxy 5-acetylamino diphenyl. These compounds are useful as intermediates in the preparation of bactericides.

Alkyl Cresols. 2,073,995 George W. Raiziss and Le Roy W. Clemence, Philadelphia, Pa.—Abbott Laboratories, North Chicago, Ill.—The patentees claim as a germicide, alpha-ethyl-propyl ortho-cresol.

Branch-Chain Alkyl Derivatives of Beta-Naphthol. 2,073,996 George W. Raiziss and Le Roy W. Clemence, Philadelphia, Pa.—Abbott Laboratories, North Chicago, Ill. — The patentees claim an alkyl derivative of beta-naphthol, wherein the alkyl group is branched and contains from 5 to 6 carbon atoms (e.g., 1-ethylpropyl, isoamyl and tert.-amyl) said derivative having high germicidal effects combined with low toxicity. Said compounds are particularly strong in germicidal effect towards **Staphylococcus aureus.**

Alkyl - Alpha - Naphthols. 2,073,997 George W. Raiziss and Le Roy W. Clemence, Philadelphia, Pa. —Abbott Laboratories, North Chicago, Ill.—The patentees claim an alkyl derivative of an alpha-naphthol, wherein the alkyl group contains from 4 to 6 carbon atoms. Examples are (1-ethyl-propyl)-alpha-naphthol, (1-methyl-butyl)-alpha-naphthol, n-amyl - alpha - naphthol. Said compounds are particularly strong in germicidal effect towards **Staphylococcus aureus.**

Aryl Mercury Hydroxy Mono-Nuclear Aromatic Carboxylates. 2,074,040 Carl N. Andersen, Wellesley Hills, Mass.—Lever Brothers Company—The patentee claims a new organic mercury compound having the general formula (RHg) x R_1 in which R represents an aromatic structure to a carbon atom of which the mercury is directly attached, and in which none of the carbon atoms has direct linkage with any element other than hydrogen, carbon and mercury; in which R_1 represents a hydroxy substituted mononuclear aromatic acid radical, which is linked to the RHg through the replacement of acidic hydrogen; and in which x represents the number of RHg groups attached to the acid radical, and is an integer representing the number of acidic hydrogens in the acid. Examples are phenylmercury salicylate, phenylmercury gallate, phenyl-mercury protocatechuate.

Insecticide. 2,074,188 Jean Ripert, Paris, France—Le Fly Tox, Paris, France—An insecticidal spray composition comprises pyrethrins dissolved in a solvent from the class consisting of glycols and glycol ethers.

Insecticide. 2,075,359 Paul L. Salzberg and Euclid W. Bousquet, Wilmington, Del.—E. I. duPont de Nemours & Company, Wilmington, Del. — The patentees claim an insecticide comprising a fluosilicate of an organic base. Examples of aliphatic fluosilicates are: di-n-butylamine fluosilicate, n-butylamine fluosilicate, tri-n-butylamine fluosilicate, benzylamine fluosilicate, triethanolamine fluosilicate, b-amino-ethylaniline fluosilicate, and ethylene diamine fluosilicate. Examples of aromatic fluosilicates are: aniline fluosilicate and those obtained by reacting amino-naphthalenes, amino-diphenyls or amino-anthracenes, with hydrofluosilicic acid. The following heterocyclic fluosilicates may be mentioned: quinoline, nicotine, picoline, lutidine, collidine, isoquinoline, quinaldine, naphthoquinaldine, acridine and carbazole. The fluosilicates of crude coal tar bases may also be used. These bases may be partially or wholly hydrogenated as exemplified by piperidine, or by pyrrolidine, or alkyl pyrrolidines.

Sodium Aluminium Fluoride. 2,075,370 Walter Strathmeyer, Oppau, Germany—I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany—A process for the production of sodium aluminium fluoride consists in dissolving 78 parts of aluminium hydroxide having a content corresponding to 64 percent of Al_2O_3 in 415 parts of 29 percent caustic soda solution and introducing this solution into a solution of 222 parts of ammonium fluoride in 300 parts of water while stirring, removing the ammonia formed by heating to about 80° to 90° C., filtering off the precipitate, washing and drying it.

Insecticide. 2,070,603 Lowell B. Kilgore, Washington, D. C.—The patentee claims an insectifuge or insecticide comprising in solution of a strength of from 2 to 5 percent of synthetic ester selected from the group consisting of: mesityl oxide oxalate methyl ester enol isomer; mesityl oxide oxalate methyl ester dihydropyrone isomer; mesityl oxide oxalate ethyl ester; mesityl oxide oxalate normal propyl ester; mesityl oxide oxalate isopropyl ester; mesityl oxide oxalate normal butyl ester; mesityl oxide oxalate secondary butyl ester; mesityl oxide oxalate iso-butyl ester; mesityl oxide oxalate normal amyl ester; mesityl oxide oxalate secondary amyl ester; mesityl oxide ox-

alate iso-amyl ester; mesityl oxide oxalate benzyl ester; mesityl oxide oxalate cyclohexyl ester; mesityl oxide oxalate thtrahydrofurfuryl ester; benzal acetone oxalate ethyl ester; benzal acetone oxalate normal butyl ester; furfural acetone oxalate ethyl ester; crotonal acetone oxalate ethyl ester; pseudo-ionone oxalate ethyl ester; beta-ionone oxalate ethyl ester. These compounds are effective in repelling houseflies from baits and also in killing them in the Peet-Grady test chamber. Pyrethrum extract or other botanical extractives may be added to enhance the insecticidal value.

Weed Killing Preparations. 2,076,917 Georg Pfuetzer and Hermann Losch, Limburgehof, Germany —I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany — The patentees claim weed-killing preparations in a highly dispersed form containing at least 20 percent by weight of ammonium chloride and a water-soluble heavy metal salt selected from the group consisting of copper and iron salts.

Deodorizing Composition. 2,077,060 Alexander R. White, Mimico, Ontario, Canada—Deodor-X Company of Canada Limited, Montreal, Quebec, Canada—A disinfectant and deodorant compound comprises approximately 10 percent or less of a 40 percent solution of formaldehyde, approximately 5 percent or less of sodium metasilicate solution, approximately 85 percent of water, and approximately 2 percent of emulsifying ingredients and aromatic agents.

Polythiocyano Esters. 2,077,478 Charles S. Hollander, Holmesburg, and Frederick E. Williams, Emlenton, Pa.—Rohm & Haas Co., Philadelphia, Pa. — An insecticidal composition has as its active ingredient an acetal derived from an aldehyde having from one to seven carbon atoms and an alcohol which contains a thiocyano group and an ether oxygen atom.

Polythiocyano Esters. 2,077,479 Charles S. Hollander, Holmesurg, and William F. Hester, Drexel Hill, Pa.—Rohm & Haas Co., Philadelphia, Pa.—An insecticidal composition has as its active ingredient a diester of dicarboxylic acids and a monohydric alcohol, said alcohol containing a thiocyano group and an ether oxygen atom.

Nicotine Derivatives. 2,077,960 Robert L. Silbley, Nitro, W. Va. —Monsanto Chemical Co., St. Louis, Mo.—The patentee claims a product obtained by reacting in the presence of heat substantially equi-molecular proportions of nicotine and a mercapto-arylthiazole of the benzene and naphthalene series. These chemical compounds by virtue of their solubility in ketonic solvents, are of marked commercial importance, and may be employed as insecticidal preparations.

Mothproofing Compositions. 2,078,458 Theron P. Remy, Los Angeles, Calif. — The Texas Company, New York, N. Y.—A mothproofing emulsion comprises aluminum naphthenate, amyl acetate, water, and triethanolamine oleate.

Germicidal Composition Containing Alkyl Phenols. 2,079,772 Reuben Schuler, Elizabeth, N. J.—Stanco Inc.—The patentee claims germicidal and antiseptic composition comprising a substantially clear aqueous composition containing a major proportion of water, an oil-soluble sulfonate derived from petroleum oils, a water-insoluble alkyl phenol in an effective amount, and a water-soluble solvent for said sulfonate and said alkyl phenol. For example, two parts of secondary hexyl phenol and five parts of oil soluble sodium sulfonate are dissolved in ninety-three parts of 91% strength isopropyl alcohol. One part of this solution mixed with forty-nine parts of water yields a clear transparent solution which is strongly antiseptic, killing **Staphylococcus aureus** in five minutes, as tested by the Food and Drug Administration method, published in the United States Department of Agriculture Circular 198, of December, 1931.

Weed Killing Compositions. 2,079,827 William H. Volck, Watsonville, Calif.—California Spray-Chemical Corporation, Berkeley, Calif.—A weed killing composition comprises uncombined sulphur dissolved substantially to the point of saturation in a liquid sulphur dioxide extract of a petroleum oil.

Cupric Mixtures. 2,079,953 Pierre F. J. Souviron, Tarbes, France —A supric anticryptogamic composition consists of a cupric oxychloride having the formula 4 $Cu(OH)_2CuCl_2$ and a free soluble barium salt, said composition having with reference to litmus, a slightly acid to neutral reaction.

Weed Killer and Fertilizer. 2,080,378 William Quinn, Ottawa, Ill. —A weed-killing and soil fertilizing solution for eradicating thistles comprises sodium hydroxide nine parts, sodium nitrate one part and water forty-two parts.

Toxic Agents. 2,080,770 Stefan Goldschmidt, Karlsruhe, and Karl Martin, Bruchsal, Germany—Kessler Chemical Corporation, New York, N. Y.—The patentees claim as an insecticide a preparation comprising as an active constituent an aromatic isothiocyanate in which the isothio cyanate radical is directly attached to an aromatic nucleus. Among the compounds suitable for this invention are: phenyl-isothiocyanate, chlorophenyl-iso-thiocyanate, p-oxyphenyl-isothiocyanate, m- and p-phenylene-di-isothiocyanate, toluylene-di-isothiocyanate, chlorphenylene-di-iso-thiocyanate, nitrophenyl-isothiocyanate, and xylylene-di-isothiocyanate.

Tertiary Alkyl Phenols. 2,081,284 Frits E. Stockelbach, Montclair, N. J.—Harold H. Fries, New York, N. Y.—The patentee claims the nuclear alkylated condensation products of a mixture of commercial phenols derived from coal tar and a tertiary alcohol. Bacteriological tests of the original phenols and of the tertiary butyl substitutes are shown in the following table, the phenol coefficients having been determined according to the Food and Drug Administration Method as published in the United States Department of Agriculture Circular No. 198 using staphylococcus as testing organism: phenol U.S.P. — 1.; tertiary butyl phenol—87.5; cresol U.S.P.—3.1; tertiary butylated cresol U.S.P.—75.0; cresylic acid (boiling range 201—216)—3.7; tertiary butylated cresylic acid (boiling range 201—216)—87.5; cresylic acid (boiling range 203—225) —5.0; tertiary butylated cresylic acid (boiling range 203—225). — 100.0; xylenol — 5.6; tertiary butylated xylenol—150.0.

Tertiary Alkyl Phenols. 2,082,044 Clayton M. Beamer, Elizabeth, N. J.—Standard Oil Development Co.—An improved process for the production of tertiary alkyl phenols from a tertiary alcohol and a phenol comprises reacting the tertiary alcohol and phenol in the presence of concentrated sulfuric acid, maintaining the reacting mixture throughout the reaction at a temperature below about 15° C.

Moth - Proofing Detergent Composition. 2,082,188 Herman Stottler, Leverkusen, and Theodor Hermann, Leverkusen-Wiesdorf, Germany—Winthrop Chemical Co., Inc., New York, N. Y.—A mothproofing detergent composition consists essentially of a neutral soapy washing agent in preponderating proportion, and a water-soluble mothproofing agent having an affinity for wool selected from the group consisting of salts of organic quaternary phosphonium bases, aromatic hydroxycarboyxlic acids, the halogensubstituted products of the latter, aryl sulfamides and derivatives thereof in which hydrogen atoms connected to the nitrogen atom of the amino group are replaced by aryl or aykyl radicals, said composition being at the most only slightly colored in the dry state, being soluble in water, and being adapted for simultaneously cleaning and rendering mothproof wool, feathers, hair and like materials.

Germicidal Preparation. 2,082,625 Merrill C. Hart, Kalamazoo,

Mich.—The Upjohn Co., Kalamazoo, Mich. — A method of preparing a germicide comprises condensing an appreciable excess of a cresol with an amyl alcohol to produce amylated cresol, mixing the condensation product with an alkali solution of a strength to dissolve a portion only of the condensation product, separating the clear solution from the undissolved portion of the condensation product and retaining the clear solution, acidifying the clear solution to precipitate the dissolved amyl cresol, and separating and retaining as a germicide the precipitated amyl cresol.

Parasiticidal Composition. 2,083,098 Alwyn C. Sessions, New Brunswick, N. J.—California Spray-Chemical Corp., Berkeley, Calif.—A parasiticidal composition comprises a neutral copper-calcium silicate containing complex and a botanical insecticide selected from the group consisting of rotenone, pyrethrum and nicotine.

Method of Preparing 9-Amino-3, 6-Dimethoxy-10-Methyl-Acridinium Chlorides. 2,083,908 Sahachiro Hata, Konomu Matsumura, and Kiyoyuki Ishihara, Tokyo, Japan.—This compound showed strong disinfecting power against **Streptococcus haemolyticus** and **Bacillus diphtheriae, Bacillus tetani,** and **Bacillus hystricus** and did not have such power weakened by the presence of albuminous matters.

Dichlorohydroxydiphenyl. 2-, 084,033 Russell L. Jenkins, Webster Groves, Mo.—Monsanto Chemical Co., St. Louis, Mo.—The present invention relates to a new phenol: 4, 4'-dichloro - 2 - hydroxydiphenyl. This compound has an unexpectedly high phenol coefficient against several classes of micro-organisms.

4-Aminodiphenyl Compounds. 2,084,034 Russell L. Jenkins, Anniston, Ala.—Monsanto Chemical Co. —The patentee claims a compound of 4-aminodiphenyl and a hydroxydiphenyl. Complexes such as herein disclosed may be used in rubber compounding, as addition agents to gasoline, and to other compositions for preservative or disinfecting purposes.

Azo Compounds. 2,085,037 Fritz Mietzsch, Wuppertal-Barmen, and Josef Klarer, Wuppertal-Elberfeld, Germany — Winthrop Chemical Co., Inc., New York, N. Y.—Azo compounds displaying a bactericidal action are obtainable by the manufacture of compounds of the general formula: $R_1 — N = N — R_2$, wherein R_1 stands for a para-sulfamide or disulfamide substituted radical of the benzene series, and R_2 stands for a cyclic radical containing nitrogen in basic linkage, that is for an aminobenzene or aminonaphthalene radical, which contains at least one further basic nitrogen atom in the form of an amino or alkylamino group.

Organic Mercury Compounds. 2,085,063 Carl N. Andersen, Watertown, Mass.—Lever Brothers Co.—The patentee claims a new organic compound of the general formula $RHg.R_1$ in which which R represents an aromatic structure to a carbon atom of which the mercury is directly attached and in which none of the carbon atoms has direct linkage with any elements other than hydrogen, carbon and mercury; and in which R_1 represents a radical comprising an aromatic nucleus to which is attached a saturated side chain containing a COOH group to which the RHg group is linked by the replacement of the hydrogen atom of the COOH group. Examples are phenylmercury, phenylmercury mandelate, phenylmercury tropate, and phenylmercury phenylacetate.

Aromatic Mercury Cyclic Alkaloid Compounds. 2,085,064. Carl N. Andersen, Watertown, Mass.—Lever Brothers Co.—The patentee claims a new aromatic mercury compound in which the radical RHg—is attached to a cyclic alkaloid, where R represents an aromatic structure to a carbon atom of which the mercury is directly attached and in which none of the carbon atoms has direct linkage with any element other than hydrogen, carbon and mercury. Examples are phenylmercury quinine, phenylmercury atropine, and phenylmercury papaverine.

Aromatic Mercury Substituted Heterocyclic Compound. 2,085,065 Carl N. Andersen, Watertown, Mass. —Lever Brothers Co.—The patentee claims an aromatic mercury substituted heterocyclic compound, in which the radical RHg is attached to a substituted heterocyclic compound, where R represents an aromatic structure to a carbon atom of which the mercury is directly attached and in which none of the carbon atoms has direct linkage with any element other than hydrogen, carbon or mercury, and where the substituted heterocyclic compound to which the RHg radical is attached contains but one hetero atom which has direct linkage with only atoms in the heterocyclic ring. Examples are phenylmercury quinaldine, phenylmercury 2, 6 dimethyl pyridine, and phenylmercury 2, 4-diphenyl thiophene.

Aromatic Mercury Amides. 2,-085,066 Carl N. Andersen, Wellesley Hills, Mass.—Lever Brothers Co.—The patentee claims a new aromatic mercury compound of the general formula $C_6H_5Hg.R_1$, in which R_1 represents the radical of oleic amide of ethane sodium sulfonate, to the amido nitrogen of which the C_6H_5Hg group is attached.

Germicidal Preparation. 2, 085,318 Emil Klarmann, Bloomfield, N. J.—Lehn & Fink Products Corp., Bloomfield, N. J.—A germicidal preparation comprises paratertiary butyl phenol and a halogenated phenol.

Halogen Derivatives of alpha-Methylbutyl Cresols. 2,086,336 George W. Raiziss and Le Roy W. Clemence, Philadelphia, Pa.—Abbott Laboratories, North Chicago, Ill.—The patentees claim a compound having the formula $YnRCH(CH_3)CH_2-CH_2CH_3$ wherein R is a cresol nucleus, Y is a halogen and n is 1 or 2. These new compounds are of considerable value to the medical profession as bactericidal and bacteriostatic agents.

Quaternary Ammonium Compounds. 2,086,585 Ludwig Taub and Friedrich Leuchs, Wuppertal-Elberfeld, Germany—Alba Pharamaceutical Co., Inc., New York, N. Y.—The patentees claim quaternary ammonium halides containing only one quaternary nitrogen atom which is once substituted by an alkylthioalkyl group of 8 to 20 carbon atoms and which quaternary nitrogen atom is otherwise substituted only by saturated lower alkyl groups as organic substituents and by the anion of a hydrohalic acid. These quaternary ammonium compounds display bactericidal and fungicidal properties.

Stabilizer and Horticultural Sprays. 2,086,746 Alwyn C. Sessions, New Brunswick, N. J.—California Spray - Chemical Corp., Berkeley, Calif.—A horticultural spray consists of an aqueseus suspension of solids, comprising a substantially insoluble copper compound and a relatively insoluble chemical buffering agent consisting of the salt of a weak inorganic acid (e.g., zinc silicate) and having a quantity of hydrocarbon oil dispersed therein.

Insecticide. 2,087,028 Charles B. Gnadinger, Minneapolis, Minn.—A stable and readily water soluble insecticide consists of a pine solution of oleo-resin of pyrethrum and a substantially alkali free vegetable oil soap.

Quaternary Ammonium Compounds. 2,087,131 Ludwig Taub, Hans Hahl, and Friedrich Leuchs, Wuppertal-Elberfeld, Germany—Alba Pharmaceutical Co., Inc., New York, N. Y. —The patentees claim N-diethyl-N-benzyl - 4 - n - octyloxyphenoxy-ethyl - ammonium-chloride, which product is soluble in water and has a disinfecting, preserving and dispersing power.

Quaternary Ammonium Compounds. 2,087,131 Ludwig Taub, Hans Hahl, and Friedrich Leuchs, Wuppertal - Elberfeld, Germany — Alba Pharmaceutical Co., Inc., New York, N. Y.—The patentees claim quaternary ammonium halides containing attached to the nitrogen three saturated aliphatic radicals selected from the group consisting of lower alkyl and lower hydroxyalkyl groups, only one higher molecular aliphatic ether radical of 8 to 20 carbon atoms containing one ether-like bound oxygen atom which is separated from the quaternary nitrogen atom by at least

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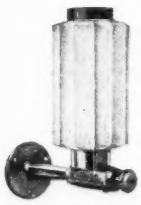

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two carbon atoms, and the anion of a hydrohalic acid.

Germicidal Composition. 2,087,588 William E. Austin, New York, N. Y.—The patentee claims antiseptic and germicidal compositions prepared by treating casein with 5 per cent to 100 per cent of its weight of p-tertiary amyl phenol in neutral aqueous medium at approximately 75° C., separating the coagulated compound after cooling and drying at ordinary temperatures.

Horticultural Oil Spray. 2,087,599 Edward B. Hunn, Cranford, N. J. —Stanco, Inc.—The patentee claims a dilutable paste emulsion containing water, a suitable oil, finely powdered natural parts of a plant selected from the group consisting of derris and cube root, containing an inherent emulsifier consisting of the natural gums, resins and saponin of said plant parts and properties toxic to insects, said emulsion being supplemented when said plant parts are reduced in amount as herein set forth, by an auxiliary emulsifier in small amount.

Aryl Mercury Compounds of Hetero-Cyclicimines and Imides. 2,087,959 Carl N. Andersen, Watertown, Mass.—Lever Brothers Co.—The patentee claims a new organic mercury compound of the general formula $(RHg)xR_1$, in which R represents an aromatic structure in which none of the carbon atoms has direct linkage with any element other than hydrogen, carbon and mercury; in which R_1 represents a heterocyclic radical containing an = NH group that is linked to the RHg group through attachment to the nitrogen atom in the = NH group; and in which x represents the number of RHg groups in the compound and is an integer having a value of at least one and not more than the number of imido nitrogens in the radical R_1. Examples are phenylmercury ortho-benzoyl sulfimido, phenylmercury indole and phenylmercury pyrrole.

Aryl Mercury Imino and Imido Compounds and a Process of Making Them. 2,087,960 Carl N. Andersen, Watertown, Mass. — Lever Brothers Co.—The patentee claims a new organic mercury compound of the general formula $(RHg)x.R_1$ in which R represents an aromatic structure in which none of the carbon atoms has direct linkage with any element other than hydrogen, carbon and mercury; in which R_1 represents a radical of an organic compound containing an = NH group, the nitrogen of which is attached to an RHg group; and in which x represents the number of RHg groups and is an integer having a value of at least one and not more than the number of = NH groups in the compound of which R_1 is the radical. Examples are phenylmercury quinone imine, phenylmercury hydrazobenzene, and phenylmercury quanidine.

Preparation of 4-Alkyl Halo-Phenols. 2,087,986 Lindley E. Mills, Midland, Mich.—The Dow Chemical Co., Midland, Mich.—A process of producing compounds having high phenol coefficients comprises the treatment of a 4-alkyl phenol, having more than five carbon atoms in the alkyl group, with a reagent capable of introducing a halogen substituent in place of one of the hydrogen atoms.

Insecticide. 2,088,639 William McI. Dickson, Woodside, Del., and Arthur H. Henninger, St. Albans, N. Y.—General Chemical Company, New York, N. Y.—An insecticide comprises a major portion of an arsenical and a minor portion of material of the group comprising sodium-aluminum sulfate, potassium-aluminum sulfate, and ferric sulfate.

Insecticide. 2,088,640 William McI. Dickson, Woodside, Del., and Arthur H. Henninger, Floral Park, N. Y.—General Chemical Company, New York, N. Y.—An insecticide comprises a dry, unreacted mixture containing a predominating quantity of lead arsenate and approximately 1/10 per cent of a substance of the group comprising quassia and aloes.

Insecticide. 2,088,641 William McI. Dickson, Woodside, Del., and Arthur H. Henninger, St. Albans, N. Y.—General Chemical Company, New York, N. Y.—The patentees claim the method of controlling codling moth infestation, which comprises treating plants infested with codling moth with an insecticide comprising a stomach poison and not less than 15 per cent by weight of an astringent ingredient. Astringent materials, such as tannic acid, aloes, quassia, ferric sulfate, alum, aluminum sulfate, burnt alum, and sodium aluminum sulfate may be used.

Insecticide. 2,088,651 Arthur H. Henninger, St. Albans, N. Y.—General Chemical Company, New York, N. Y.—An insecticide comprises lead arsenate having incorporated therewith a relatively small amount of a dispersing agent consisting of methylene blue and tannic acid.

Insecticide. 2,089,766 William A. Simanton, Pittsburgh, Pa.—Gulf Research & Development Company, Pittsburgh, Pa.—An improved insecticide comprises in stable admixture a petroleum fraction, a substance chosen from the class consisting of ethylene glycol monoethyl ether acetate and diethylene glycol monoethyl ether acetate, pyrethrins and at least one of the active toxic ingredients of derris and cube.

Insect Repellent. 2,089,767 William A. Simanton, Pittsburgh, Pa. —Gulf Research & Development Company, Pittsburgh, Pa.—The patentee claims as a new composition of matter of odorless character having strong insect repellent qualities, a solution in a petroleum fraction of between 5 and 15 per cent of an odorless substance chosen from the class consisting of diethylene glycol monobutyl ether and diethylene glycol moneothyl ether acetate, the petroleum fraction having sufficient solvent power for said substance to make a clear solution with the amount added.

Insecticide. 2,090,109 Mayne R. Coe, Washington, D. C.—A composition of matter comprises a powdered insecticide of plant origin subject to deterioration by ordinary light, (e. g. nicotine dust, rotenone or pyrethrum powder) the subdivided insecticidal particles of which are coated with a dry colored film formed in contact with said particles, said film also having an adhesive tendency when such matter is suspended in water, the color of the film having a spectral transmission of above 4900 Angstrom units of the spectrum.

Organic Mercury Compounds. 2,090,927 Carl N. Andersen, Watertown, Mass.—Lever Brothers Company—The patentee claims a new compound of the general formula $(C_6H_5Hg)_2R_1$, in which R_1 represents a radical corresponding to an acid of a terpene, e.g. phenylmercury camphorate, the phenylmercury alcoholate of methol, and phenylmercury hexahydrobenzoate.

Spray Oil Emulsifier. 2,091,062 Wallace J. Yates, Martinez, Calif. —Shell Development Company, San Francisco, Calif.—A soap-free spray oil emulsion consists of water, a normally liquid plant spray mineral oil, a water soluble emulsifier, and a small quantity of a water insoluble aliphatic unsaturated alcohol having from 10 to 22 carbon atoms to one molecule.

Mothproofing Compositions. 2,091,075 Bernard L. Landers, Brookline, Mass.—Philipp Brothers, Inc.—A mothproofing composition comprises a mixture of sodium fluoride, sodium silicate, sodium chloride, mono sodium phosphate, and "Nekal" in substantially the following proportions: sodium fluoride, 48 per cent; sodium silicate, 7 per cent; sodium chloride, 34 per cent; mono sodium phosphate, 10 per cent; "Nekal," 1 per cent.

Insecticides and Fungicides. 2,091,935 Theron P. Remy, Los Angeles, Calif., and Waldersee B. Rendrey, Beacon, N. Y.—The Texas Company, New York, N. Y.—An insecticide and fungicide comprises mineral oil, sulfurized mineral oil, a finely-divided solid dispersing agent, water, a gum emulsion-stabilizing agent, a gum preservative, and an alkaline material in an amount such as to maintain the emulsion at a pH of from 8 to 9. An example is: mineral oil, 67 per cent; Fuller's earth, 6.3 per cent; gum arabic, 1 per cent; formaldehyde, 0.12 per cent; soda ash, 0.09 per cent; balance, water.

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Insecticide Specifications—What of Crawling Insects?

By Charles Opitz
President, John Opitz, Inc.

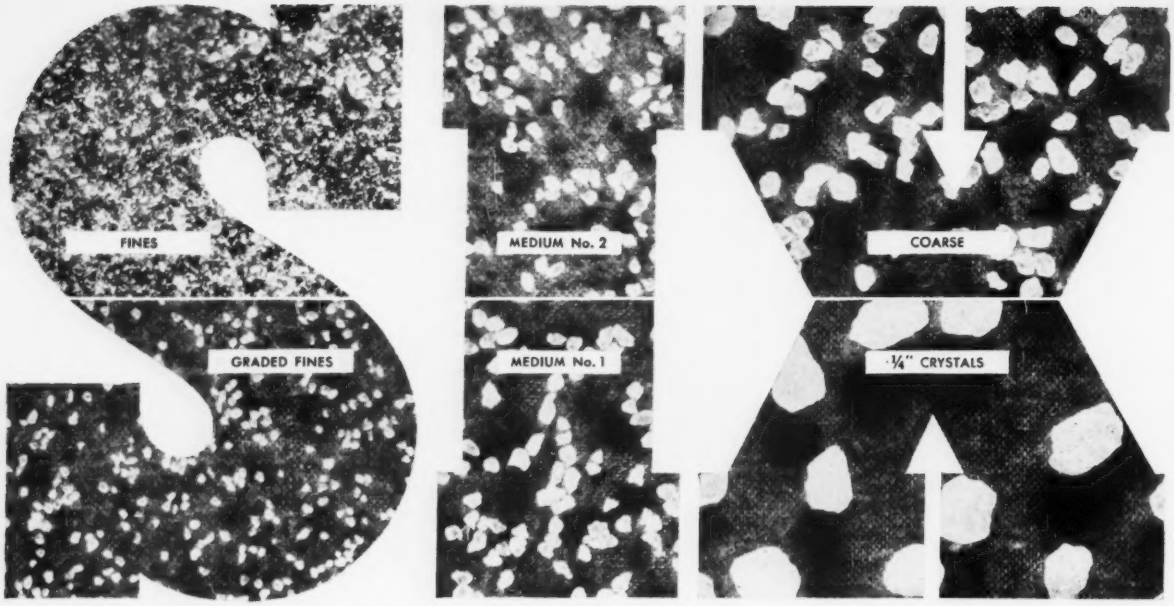
THE promulgation of a specification covering an all-purpose liquid insecticide by the National Association of Insecticide and Disinfectant Manufacturers carries with it a distinct threat to the businesses of the manufacturers of specialized liquid insecticides, particularly bedbug liquids. The average buyer and user of insecticides,—and special reference is made to the buyer for large institutions, hotels, etc.,—is not sufficiently familiar with the differences between an all-purpose fly spray and a liquid designed solely for use against bedbugs. He will in all likelihood attempt to apply the specification, and the test, designed for a fly spray, to a special bedbug liquid, with results which are certain to be confusing and misleading. To the entomologist and the insecticide manufacturer, the limitations of the new specification are quite apparent, but to the uninformed, they are not.

It is my intention to protest against the distribution of a specification by the National Association under the title "Liquid Household Spray Insecticide" inasmuch as this name is too broad. If the product is tested against flies and is designed primarily for use against flies, it should be termed "Liquid Household Fly Spray" and it should be made perfectly clear that there are other liquid insecticides of a specialized character, and that this specification does not apply to them. To test a special bedbug liquid against flies by the Peet-Grady Method naturally will give results which have little or no relation to the ability of the product to kill the insect against which it is designed to be used,—the bedbug.

I am fully aware of the fact that research is now being carried on to design a method for testing liquid insecticides against crawling insects, both at Ohio State University and by a number of insecticide manufacturers. Until this work is completed and a definite testing procedure officially adopted by the Association, the limitations of the present specification and test should be made perfectly clear to every buyer to whom a copy of the specification is sent so that efficient products which do not fall in the class of the general pyrethrum fly spray may avoid being condemned by purchasers because of their lack of knowledge of all the conditions surrounding the specification. This is particularly important at this time because it is my belief that the bulk of all-purpose fly spray sold to institutions, etc. is used against bedbugs, and possibly cockroaches, and not against flies.

I had the privilege of speaking before the National Association at its annual meeting held in Philadelphia in December, 1936. In that address, it was pointed out that a definite necessity existed for setting up of standards for liquid insecticides, both for crawling insects as well as flying insects. The general public, as well as users of large quantities of insecticides, such as factories, institutions, etc., are primarily interested in the results obtained from the insecticides which they buy. Buyers have a specific need for an insecticide when they purchase one, and their only interest in the insecticide is that it accomplish the purpose for which it was bought. Therefore, the insecticide industry is obligated to see to it that insecticide specifications which are accepted by the Association are such as will produce a product effective against the particular insect on which it is to be used. If experience and comparison show that an insecticide cannot give effective results against certain insects, then the manufacturer should not be permitted to convey the impression that it can give results, either by intimation or otherwise. The sooner two separate standards are set up by the Association,—one for a liquid insecticide to be used on crawling insects, and the other for a liquid spray insecticide to be used on flying insects, the better it will be for buyer and seller alike.

It has been proven by biological tests that there are liquid insecticides on the market today that are equivalent to the grade of insecticide designated by the specification as "AA" (the highest grade fly spray) but which when tested by the Peet-Grady Method show a grade much lower than the "AA" standard. These same insecticides, however, when applied to bed bugs and roaches give results at least equal to, and often superior to, the insecticides designated by the specification as "AA." It might be added also that these liquids meet all the other requirements of the Association Specification for Liquid Household Spray Insecticide,



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except perhaps in respect to the flash point, which might be somewhat above 100 degrees. A flash point, slightly above 100 degrees is considered to be within the fire-hazard range set by the National Board of Fire Underwriters and it is permissible to pack the product in regulation metal cans the same as for fly spray.

The specifications for fly sprays as set down by the Association are of course well known to all members, but I should like to suggest the following general specifications for liquid insecticides to be used on crawling insects, but not flying insects:—

1. It shall be harmless to man and warm blooded animals, but it shall not be recommended for use on animals.
2. When used as directed, it shall not stain wall-paper, fabrics, or other household furnishings. Neither shall it corrode metals.
3. It shall not have an objectionable odor, but no specific odor shall be specified.
4. It must be a liquid of quick-evaporating quality.
5. It shall have a flashpoint of above 100 degrees; or one that will pass the fire-hazard requirements of the National Board of Fire Underwriters.

In point of application, a liquid insecticide to be used against bedbugs is much more effective when applied from a spout can rather than a spray can. Bedbugs particularly have a tendency to group together, requiring concentrated application of liquids in small local areas. Consequently, application by a spout can is much more effective than a spray. Furthermore, unlike fly sprays which must remain suspended in the air, a liquid for crawling insects must be of the quick-evaporating type which cannot be applied to beds, mattresses, etc. with a sprayer with any degree of satisfaction. As a safety factor in using liquid insecticides against crawling insects, particularly when applied for use against bedbugs in beds, it is a highly desirable feature to have a liquid evaporate as quickly as possible after its application. It is a well-known fact that liquid insecticides, such as the average fly spray, when applied to plants will seriously burn them. These same liquids have also been held to burn human skin when they come into contact with it.

In laboratory tests of the application of fly spray liquids, as compared with the quick-evaporating bedbug liquids, the fly spray liquids took considerably more time to dry, when applied on mattresses, cloth, etc., than the quick-evaporating bedbug liquids. Particularly when applied with a sprayer gun, large areas must be covered with a sufficient amount of liquid to penetrate the mattresses. Therefore when a liquid insecticide is used in institutions, or where there are large areas in sleeping quarters to be treated, there is danger of causing burns to humans who might come in contact with the liquid-treated beds, particularly if the beds are treated by the average layman who lacks knowledge of the proper application of the liquid and who carelessly applies a larger quantity of liquid than may be necessary. Hence the necessity for a quick-evaporating liquid, as well as a spout-can application of the liquid rather than a sprayer-gun application. These two factors will greatly lessen the danger of complaints from burned skin.

In no way does the writer wish to obstruct the progress which has been made during the past few years by the various committees and laboratories which have been working on these standards and specifications, but, as he pointed out in Philadelphia, serious consideration of the proper type of insecticides for specific insects should be given before general specifications are adopted and promulgated by the Association, because of the possibility of some manufacturers making claims for their product which are not substantiated in actual use.

It is my firm belief that the confidence of the public in the value of insecticides must be gained and then must be maintained by making certain that the insecticides offered to them by the manufacturers have real merit and real value and that they will perform the job claimed for them. Unless this confidence is earned and maintained, the insecticide industry will suffer considerably. Such confidence cannot however be maintained unless the industry adopts specifications and standards which will guarantee the production of suitable insecticides, and which will guard against the manufacturer who makes extravagant claims for a so-called "all-purpose insecticide."

B. J. Gogarty Dies

Bernard J. Gogarty of Commercial Solvents Corp., New York., a prominent and popular figure in the New York chemical field, died at his home in Rockville Center, L. I., October 13. Mr. Gogarty, who was 42 years old at the time of his death, had long been identified with the botanical drug and alcohol trades. He was a member of the sales staff of J. L. Hopkins & Co. from 1917 to 1924, and after being with S. B. Penick & Co. from 1924 to 1926, he then returned to the Hopkins organization as sales manager. He next joined Rossville Commercial Alcohol Corp., and when that concern was purchased by Commercial Solvents Corp. in 1933, he was transferred to the sales staff of the latter organization. Mr. Gogarty was a prominent figure in association activities of the chemical industry all through his career. He was an ex-president of the Salesmen's Association of the American Chemical Industry, and was for five years a member of the convention committee of the Toilet Goods Association. In 1935 and 1936 he served as chairman of the entertainment committee for the annual dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade. He was prominent in Masonic activities as a member of the Ezel Lodge No. 732, F. & A. M., Brooklyn. He is survived by his widow, Mrs. Mary E. Gogarty, two sons, Arthur and Raymond, and his mother, Mrs. Bernard J. Gogarty, Sr.

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THE NRA... Has It Been Resurrected?

By Chas. R. Rosenberg, Jr.

WHILE the NRA, as such, passed into the limbo of legal history under the decision of the U. S. Supreme Court in the famous Schechter case, the legislative spirit of that elaborate program of industrial regulation still lives and flourishes. It was seen, for example, in the Black-Connery wage-and-hours bill, which was passed by the Senate and favorably reported to the House at the last session of Congress.

The Black-Connery bill did not pass the House, but Washington rumors suggest that at the next Congressional session manufacturers will gladly agree to wage-and-hour legislation in return for legislative favors in other directions—specifically, for a proposed fair trade practice law.

Under this fair trade practice bill, now said to be in preparation, manufacturers will be relieved of some of the more "cramping" restrictions of the Robinson-Patman Act. At present, trade practice codes are voluntary under the supervision of the Federal Trade Commission. More comprehensive trade practice regulation is hinted as one of the features of the proposed bill. Manufacturers would be permitted to enter into combinations among themselves for various purposes. They could agree on discounts and on fair and reasonable allowances for advertising and display of products. Whether this is simply another "feeler" or an actual legislative plan, will not become apparent until Congress meets. But a fair trade practice law plus the Wagner Act plus a wage-and-hours statute would seem to add up to something closely resembling the NRA. Compulsory price fixing is the only thing lacking, and a fair trade practice act may even allow for that!

Wagner Act Boomerang

Recent litigation under the Wagner Act indicates that the "teeth" of that much discussed statute may be invoked by an employer against an "unfair" labor organization. The United States Supreme Court has been asked to pass on a case involving that rather surprising phase of the law.

A labor organization staged a "sit-down" strike in the plant of a Philadelphia manufacturer. The employer sought relief in the United States District Court, but that tribunal, while asserting that the sit-down procedure was a gross violation of State law, concluded that the Federal courts had no jurisdiction.

The manufacturer then appealed to the United States Circuit Court of Appeals for the Third Circuit. The Circuit Court reversed the District Court's decision, held that the Federal courts could take jurisdiction of the sit-down situation and declared the sit-down strike illegal as a violation of the Wagner Act. The Circuit Court took the view that as the employing manufacturer was doing business in interstate commerce, the sit-down stirke was an unfair labor practice affecting interstate commerce and thus under the ban of the Wagner Act (Apex Hosiery Co. vs. Leader, 90 Federal Reporter, second series, 155).

The labor organization involved in this case has taken an appeal to the United States Supreme Court. It is hardly likely that labor cares very much about the condemnation of the sit-down strike, since labor leaders generally seem convinced that the sit-down is bad "publice relations" technique. But when a Federal court says, as in this case, that the Wagner Act may be used against labor as well as against employers, naturally the union feels that something must be done about it. The effort, of course, will be to persuade the Supreme Court to rule that the Circuit Court was wrong. Looks like a landmark in labor law.

Government Contracts

A new set of regulations under the Walsh-Healey Public Contracts Act has recently been issued by the U. S. Department of Labor. These new rules supplant all regulations previously announced under the act. In general, all manufacturers and other contractors holding or seeking government contracts exceeding $10,000 are subject to the act and the Department of Labor regulations thereunder.

The regulations deal chiefly with hours, working conditions and minimum wages as fixed by the Secretary of Labor for specific industries working on government contracts. All workers engaged in manufacture, assembling, fabrication or shipping are considered to come within the scope of the act and the regulations; but office and "custodial" employees do not.

Manufacturers interested in bidding on government contracts will do well to obtain a copy of these new regulations from the Department of Labor. A manufacturer whose regular set-up of hours, wages and working conditions complies with the regulatory requirements, is

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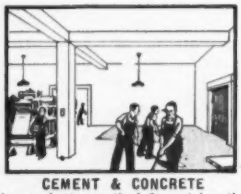

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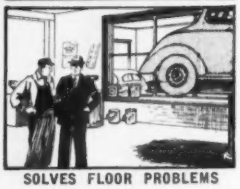

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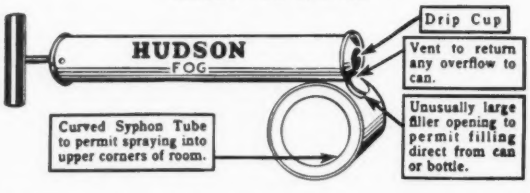
Mrs. America's answer to that question isn't based on the Peet Grady test or rating. We'll bet she never heard of that! Her answer is the effectiveness she gets in her own home. That's how she'll judge your product!

That's why it is *so* important that she applies your product properly . . . in sufficient volume to be effective . . . in a well broken, finely divided vapor that carries clear up to the ceiling . . . that it kills flies so well she comes back for more. The Hudson Fog Sprayer is the perfect model for that job. It's "High-Kill" insurance—at moderate cost. Ask about it.

HUDSON FOG SPRAYER


HUDSON
FOG
Drip Cup
Vent to return any overflow to can.
Unusually large filler opening to permit filling direct from can or bottle.
Curved Syphon Tube to permit spraying into upper corners of room.

Why not test the Hudson Fog Sprayer yourself? Why not offer your customers a deal that will give your insecticide a real chance to perform? Hudson engineers are ready to assist you without obligation.

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589 E. ILLINOIS ST. CHICAGO, ILL.

in a particularly favorable position to submit government bids. A government contract would necessitate no drastic operating changes in such a plant.

R-P Act Differentials

A provision of the Robinson-Patman Act, allowing for "differentials" in selling cost seems to have escaped general notice, but some recent decisions and interpretations of the Federal Trade Commission indicate that this feature of the law may have a profound influence on the formulating of manufacturers' merchandising policies.

It is no news, of course, that some customers are less expensive to sell to than others. Questions of credit, collection, delivery, sales servicing and many other factors are involved. Now suppose the selling cost on one account is 10 per cent, while on another it is only 5 per cent. There is a "differential" of 5 per cent in selling cost as between the two accounts, and it is not unfair price discrimination to allow the account with only 5 per cent selling cost an additional 5 per cent price discount. Actually, that will only equalize that account with the one that involves a selling cost of 10 per cent.

That is a fair inference at least from recent Federal Trade Commission rulings on the point. Nevertheless the principle must be applied with caution by manufacturers, for the Commission has been careful to make clear that this price differential idea depends in large measure on the circumstances in the particular case.

In one case before the Commission a manufacturer was giving a greater discount to a large retail mail order house than he allowed to other, smaller retailers to whom he sold direct. It was shown that the cost of selling to the mail order house was less than that of selling to the smaller retailers and the additional discount given the mail order house did not amount to more than the additional selling cost on the smaller accounts. The Commission felt that this practice was permissible under the selling cost differential provision of the Robinson-Patman Act. (Complaint No. 2937 against Bird & Son, Inc. and Montgomery Ward & Co. dismissed by Federal Trade Commission.)

A food product manufacturer selling direct to retailers was before the Commission in another case. He allowed an extra discount of 5 per cent to retailers who bought $5.00 worth of goods at any one time. The manufacturer delivered by truck to the retailer's store and absorbed spoilage. Obviously, under such a merchandising set-up the "servicing" of each retailer was an important factor. The percentage overhead on the sale of $1.00 or $2.00 worth of goods at a time was naturally higher than on the sale of $5.00 worth of merchandise in a single sale. The Commission felt that the additional discount of 5 per cent on the $5.00 sale was not in violation of the Robinson-Patman Act as an unfair price discrimination, under these circumstances. (Complaint No. 2935 against Kraft-Phenix Cheese Corp. dismissed by Federal Trade Commission.)

A large volume sale to a customer ordinarily reduces the selling cost. It is not volume, however, but the actual reduction of selling cost that the Commission considers in connection with this question of "differentials" in selling cost. Price differentials in excess of the amount or percentage of reduced selling cost on the accounts enjoying the additional discount, are not permitted by the law.

Small, local manufacturers may be wholly exempt from the provisions of the Robinson-Patman Act. The act applies only to manufacturers engaged in interstate commerce. A manufacturer operating and selling exclusively and entirely within the boundaries of a single State is not subject to the Robinson-Patman Act.

Anti-Trust Laws Weakened

When President Roosevelt signed the Federal Fair Trade Act—known in Congress as the Miller-Tydings bill—he said he did so "reluctantly." He gave two chief reasons for his reluctance. One was the fear that the act might have the effect of increasing the cost of living; the other was his opposition to any legislation tending to weaken the Federal anti-trust laws.

Before the enactment of the new Federal Fair Trade Act, price fixing by manufacturers operating in interstate commerce was contrary to the anti-trust laws. The Federal Fair Trade Act now permits such a manufacturer to fix the retail sale price of his trademarked products without violating the anti-trust laws. The only limitation is that such price-fixing must be in a State which has a law permitting resale price maintenance agreements, and forty-two states now have such statutes.

The Federal Fair Trade Act clarifies the legal situation, but creates a host of merchandising problems. A manufacturer can now protect himself and his distributors from price cutters in the retail market—and that's what the law is designed to accomplish. But will retail price maintenance on known brands encourage the growth of price competition from so-called private brands? Some retailers are reported as making pointed price comparisons between the fixed prices on well-known trade-marked items and the lower prices on competitive "private brand" items. Some manufacturers, it is rumored, have been talking about enforcing retail price maintenance on their nationally known trade-marked goods, and putting out a secondary line under different brands without retail price maintenance. Legally, there is apparently no objection to enforcing price maintenance on some trade-marked items and not on others.

—♦—

A shipment of 25 cans of "Antiseptol" made by Giustino Sallusto Co. from New York has been seized and condemned by the U. S. Food and Drug Administration because of false claims regarding its antiseptic and disinfecting properties. The article was declared by the administration to be not antiseptic nor disinfectant.

When you adopt deodorized base for your insecticide, and our guess is it won't be long now . . . remember we originated the idea back in 1927 and have been living with it ever since. We know the insecticide business and its needs. For this we offer

NONODR

The completely deodorized base for liquid insecticides.

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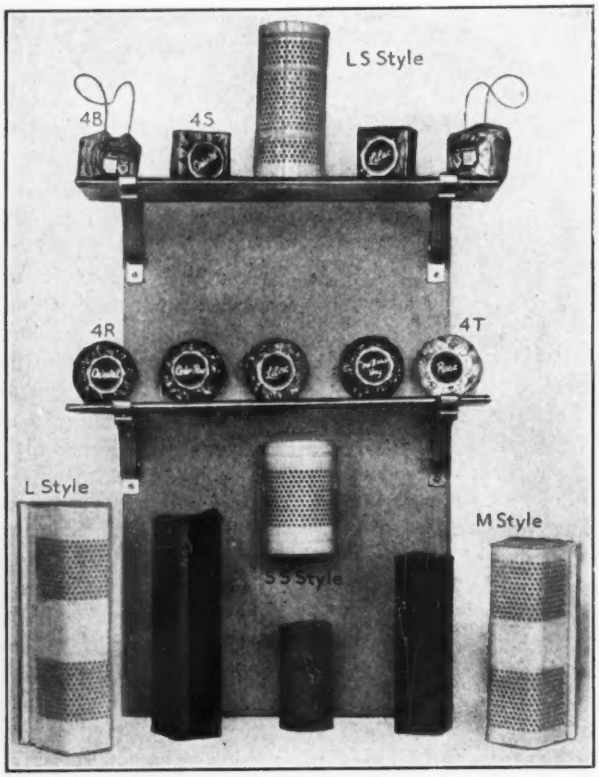
Sole Agents

BRADFORD PENN REFINING CORP.

Clarendon, Penna.



DEODORIZING URINAL BLOCKETTES

AND

BOWL PERFUMERS

These are just a few of the various types of blocks we manufacture.

Para Blocks are our specialty. So let us quote on your requirements.

Write for Descriptive Circular and Price List on Our Complete Line of Polishes, Waxes, Etc.

UNCLE SAM CHEMICAL CO., INC.

Manufacturers for the Jobber

329 East 29th St. **New York, N. Y.**

Established 1915

NAPHTHENIC SOAP EMULSIONS

DURING the past year, a great deal more has been heard about naphthenic acids, naphthenic soaps, and naphthenic acid sludges, their characteristics and their industrial applications than previously. These products are known generally as mineral oil residues. For some time, they have been in use but in a more or less restricted fashion. Now they show distinct promise for manufacturers in a widening field of industry and are attracting greater attention because of their possibilities of reducing costs in certain processes involving emulsification, dispersion, and detergent action. It is the intention here merely to scan through very briefly their applications as they are of interest to the manufacturers of disinfectants, insecticides, animal dips and sprays, special soaps, and the like.

The industrial applications of mineral oil residues are comparatively new and not generally known. They are excellent products for the manufacture of emulsions of mineral oil, coal-tar oils, cresylic acid, pine oil disinfectants, cattle sprays, etc. They form good bases for various industrial soaps which have splendid cleansing action.

Naphthenic acid sludges and naphthenic soaps are recovered during the refining of naphthenic-base crude petroleum, particularly from the lubricating oil fraction in the manufacture of white mineral oils, and therefore have a definite affinity for hydrocarbon materials. They contain no fatty acid. The ash consists almost entirely of sodium sulfate, and the free acid content is low. The odor which was an obstacle to certain uses heretofore, has been improved materially in some naphthenic residues now on the market.

Emulsions made with these residues are very stable, and it is possible to carry large amounts of mineral oil into suspension by their use. In the manufacture of disinfectants and insecticides using coal-tar acids, pine oil, pyrethrum extract, etc., the residues replace other products, such as sodium resinate (rosin soap), formerly used, and reduce material and labor cost considerably, as they eliminate the extended heating necessary to form sodium resinate soap and also the heating to dissolve the soap in the tar acids used.

A spreader such as sulfonated castor oil may be used if required. The manufacture of soluble oils, disinfectants, metal polishes, etc., presents no difficulty as there is no long heating necessary. The sludge or the soap is simply added to the mineral oil with good stirring. The finished product makes a very satisfactory emulsion when added to either hot or cold water.

SPECIMEN FORMULAS

Soluble Mineral Oil (1)
75% Mineral Oil
25% Naphthenic Acid Sludge

Soluble Mineral Oil (2)
75% Mineral Oil
25% Naphthenic Soap

Pine Oil Disinfectant
60% Pine Oil
25% Naphthenic Soap
15% Sulfonated Castor Oil

Metal Polish
60% Water
1% Bentonite
6% Naphthenic Soap
15% Silica or Tripoli
18% Mineral Oil 100 @ 100

These formulae are basic, and may be changed to suit individual needs. They are merely offered to illustrate the properties and adaptability of mineral oil residues for emulsions.

The sludge and the soap can easily be worked into existing formulae for laundry soaps, scrub and dry cleaning soaps. To increase the bodying effect, 10 to 15 per cent of acid sludge or soap is to be added, and then, with good stirring, the required amount of water necessary to produce the body desired. The process may take place either hot or cold.

Naphthenic sludges and soaps are superior to many other competitive emulsifying and bodying agents, because:

1. The cost per pound is low.
2. They are adaptable and miscible with numerous materials.
3. Their application is simple.
4. No additional products are needed to make stable compounds.

Manufacturers of soaps, cutting oils, textile oil specialties and other emulsion products, have recently shown increasing interest in the various applications of naphthenic acid sludges and soaps. Although the use of mineral oil residues is still a somewhat unexplored field, these products show, however, all indications of having considerable promise for the future, as the variety of finished products made with these residues have proved to be equal or even superior to many other materials.—This data supplied by S. Schwabacher & Co., New York.

15 Reilly PLANTS

To Serve You PROMPTLY
and DEPENDABLY

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CRESOL
CRESYLIC ACID
CRESOL U.S.P.
TAR ACID OILS
XYLENOL
NAPHTHALENE

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and other Coal Tar Products
for the SOAP *and*
DISINFECTANT *Industry*

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Reilly roofing and waterproofing materials will protect your plant in the same dependable way Reilly chemicals and oils protect the quality of your product. When you need Roofing Felt, Roofing Pitch or Roofing Tar—Waterproofing Felt, Pitch or Paint—specify Reilly Prices and particulars on request.

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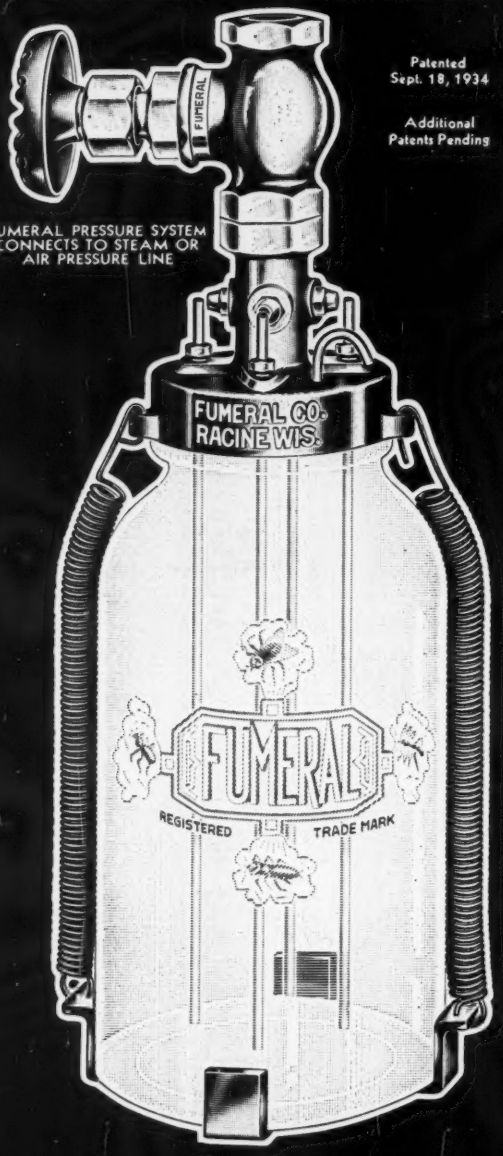
INSTANT DIFFUSER



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Additional Patents Pending

FUMERAL PRESSURE SYSTEM CONNECTS TO STEAM OR AIR PRESSURE LINE

For the instant diffusion and powerful circulation of various brands of fly sprays, insecticides, deodorants and fumigants.

FUMERAL USERS FROM COAST TO COAST IN VARIOUS INDUSTRIES REPORT SUBSTANTIAL SAVINGS

Inexpensive -- Efficient -- Economical

● Fumeral Equipment is Sold by Leading Manufacturers of Insecticides, Deodorants, Disinfectants and Fumigants who also report that FUMERAL Equipment has Increased their Sales.

IT, THEREFORE, WILL PAY YOU TO INVESTIGATE!

FUMERAL COMPANY
RACINE, WIS.
Manufacturers of Fumeral Stationary and Portable Diffusers

TECHNICAL NOTES

Moth-Repelling Agent

A mixture of naphthalene and *p*-dichlorobenzene is melted, filling or coloring matters such as camphor and pigments may be added, and the product is molded. Mor Reich. Hungarian Patent No. 116,389.

New Disinfectant

Trioform is a mixture of chlorothymol and chloroxylenol in oil. In dilutions of 1:100 to 1:3000 it is bactericidal for most pathogenes and in most cases superior to more concentrated solutions of organic mercury compounds such as sagrotan. E. Gottsacker. *Arch. Hyg. Bakt.* **115,** 198-204; through Chem. Abs.

Coal-tar Disinfectants

Coal-tar disinfectants have been shown to be of general application. Particularly in the higher members of the series, increased germicidal properties are accompanied by diminished toxicity to higher animal life, a most desirable property. While coal-tar fluids are not unaffected when brought into contact with organic matter, they are affected but little in comparison with other types of disinfectants such as hypochlorite and permanganate. The various members of the phenol groups show a gradual increase in germicidal value, together with a decrease in toxicity in passing upward through the homologous series, e.g., C_6H_5OH, $C_6H_4CH_3OH$ and $C_6H_3(CH_3)_2OH$. If instead of a methyl group we introduce a more complex group, the effect is even greater. Thus amyl-meta-cresol is about 250 times as effective as phenol. In connection with this it is interesting to note that a new black fluid. Cresantol, which has been introduced as an antiseptic for soaps, is based on a high molecular-weight phenol which is substituted with an aryl side chain. This substitution reduces its toxicity and increases the bactericidal value. Its Rideal-Walker coefficient is claimed to be about 105.

It is suggested that a carbolic soap contain a minimum of 1 per cent cresol or other tar acid and preferably 1.5-2 per cent. A total of 3 per cent of carbolic and cresylic acids is the maximum that could be used without causing irritation to the skin. R. G. Harry. *Manufacturing Perfumer* **2,** 144-6 (1937).

Rotenone in Timbo

Ordinarily the roots of several varieties of timbo grown in northern Brazil have toxic qualities, but with the Conabi variety, the leaves also seem to be toxic. Rotenone contents are for *Derris elliptica* 3-12 per cent, Peruvian timbo (*Lonchocarpus*) 7-12, *L. urucu* 5-12 and *L. nicou* 15-17 per cent. Adriao Caminha, Jr. Bol. ministerio agr. (Brazil) **24,** 15-25; through Chem. Abs.

Metal Polish

The following is a liquid metal polish which should be shaken well before use:

	Parts
Ammonium, sodium or potassium oleate	30
Fine China clay	20
Doubly precipitated chalk	15
Light petroleum	50
Kerosene or dry-cleaning solvents, as required.	

The solvent may be varied and may be increased or decreased as desired. A. N. Ghose. *Indian Soap J.* **4,** 15 (1937).

Hydrogenation of Pyrethrins

Pyrethrins I and II are cleaved on hydrogenation. A concentrate in which pyrethrin II predominated yielded hexahydropyrethrone and tetrahydropyrethrone, together with monomethyl chrysanthemumdicarboxylate. One that contained principally pyrethrin I yielded the same first two products and dihydrochrysanthemummonocarboxylic acid. Since the reductive cleavage of the pyrethrins with the formation of the corresponding acids is specific for these compounds, the hydrogenation method offers at least a theoretical possibility of the development of a quantitative method based on this behavior. H. L. Haller and F. B. LaForge. *J. Org. Chem.* **2,** 49-55 (1937).

Phenol Coefficient Limits

Although the phenol coefficient test is designed especially for determining the germicidal efficiency of phenol-like disinfectants as compared to phenol, the test has often been used for other purposes for which it is inapplicable. Disinfectants are chemical agents used to destroy pathogenic microörganisms on inanimate objects. Antiseptics are chemical agents used to kill or inhibit infectious bacteria on the human or animal body. The term "phenol coefficient" has had a definite meaning for over 30 years. The test as simplified in the Food and Drug Administration method is a test of the germicidal efficiency of phenol-like compounds against *Bacillus typhosus* at 20° C. as compared to the ability of phenol to kill the same test organism under the same conditions.

Germicides have been tested by this method which are not chemically related to phenol and whose chemical and germicidal activity differ so greatly from that of this standard germicide that they should not be compared in this way,—e.g., chlorine compounds, mercury compounds, formalin, hydrogen peroxide, iodine, picric acid, certain essential oils, a large number of organic compounds, etc. Many germicides which are soluble in alcohol but not in water have been tested in dilutions of alcohol instead of water, although water is the specified diluting agent. Others have been tested in alkali solution. As a result, so-called phenol coeffi-

Performance-*not claims*-
Proves the Superiority of

DI-BUG
PYRETHRUM
EXTRACTS & POWDER

Hundreds of old and new users know from experience the constant dependability and consistent quality of DI-BUG products. This perfect performance is the priceless ingredient Sherwood offers every DI-BUG purchaser. Your inquiry is invited.

THESE ARE FACTS:

DI-BUG PYRETHRUM EXTRACTS are guaranteed free from kerosene odor and chemical solvent smells. They are made exclusively with Spraysene, Sherwood's odorless insecticide base. Minimum guaranteed pyrethrins content are: 3.6% in DI-BUG PYRETHRUM EXTRACT No. 30 (mix 1:30); 2.4% in DI-BUG PYRETHRUM EXTRACT No. 20 (mix 1:20); 0.6% in DI-BUG PYRETHRUM EXTRACT No. 5 (mix 1:4).

DI-BUG Japanese Pyrethrum Powder is the finest impalpable insect powder available.

ALL DI-BUG PYRETHRUM PRODUCTS are tested chemically and biologically before and after manufacture.

DI-BUG Powdered Derris Root, DI-BUG Cube Root and DI-BUG Rotenone C.P. are other dependable Sherwood insecticidal materials.

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PETROLEUM COMPANY, Inc.

Main Office: BUSH TERMINAL, BROOKLYN, N. Y.

Refinery: Warren, Pa. Stocks carried in principal cities

BREUER'S TORNADO ELECTRIC SPRAYERS get you reorders because they are the most efficient and durable insecticide sprayers ever built. Supply your customers with the best.

The New Tornado Model 36

Automatic Time Switch—Volume Air Control

One Gallon Capacity, 1-3 H.P. G. E. Universal Motor

1/3 H.P. G.E. MOTOR
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
COMPRESSOR TYPE
1 GALLON CONTAINER

Here is the finest sprayer ever built. Similar to the now widely used Tornado Model 54 and retaining the automatic time switch, volume air control and adjustable nozzle features, the new Model 36 will spray a big volume of insecticide great distances in finest gas formation.

The patented principle of heating and compressing material does the trick. Just the sprayer you need for covering large distances and penetrating with the finest gas every possible source of insect existence.

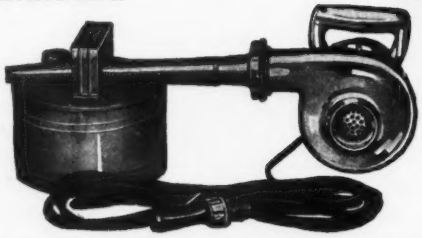
Get the facts on this sprayer before buying!

Also most complete line of electric sprayers to meet every spraying problem.

ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
1 QUART CONTAINER

MODEL 54—
1 QT. CAPACITY
It features an automatic time switch set at any point from 1 to 30 minutes — sprays desired amount without any attention whatever — automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. MODEL 53 same as Model 54 except does not have automatic time switch.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. 1/8 H.P. G.E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable.



Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

BREUER ELECTRIC MFG. CO.

862 Blackhawk Street — Chicago, Ill.

We do not sell insecticides. Our business is manufacturing sprayers.

Patented in U. S. A. and Foreign Countries

cients have been reported in the chemical literature which do not represent a true comparison of the germicidal activity of such compounds with phenol. The test itself is often blamed when discordant results are reported, when unwarranted modifications may be entirely responsible. Information relative to the germicidal properties of new compounds which are insoluble in water could better be reported in terms of the dilutions which kill the test organisms when tested in the presence of specified solvents.

The phenol coefficient test is not suitable for testing antiseptics and should never be used for this purpose. Antiseptics are not used for killing *Bacillus typhosus*, and there is no logical reason for testing antiseptics against it. A figure showing germicidal activity against this organism does not indicate the effectiveness of antiseptics against pus-producing and other infectious bacteria which are present in and on the body. Since *Staphylococcus aureus* is the most common cause of suppuration and the most resistant of those microörganisms causing infections in cuts, scratches, wounds, abrasions, etc., it is the logical organism for testing antiseptics. The Food and Drug Administration has developed tests with this organism especially designed for antiseptics.

The illogic of reporting phenol coefficient figures for antiseptics may be illustrated with tincture of iodine. This is reported in the literature as having a phenol coefficient 760 times that of 5 per cent carbolic acid,—but under practical conditions it is not 760 times better as an antiseptic. From a practical point of view such figures are meaningless and should never have been reported by the original authors. George F. Reddish. *Ind. Eng. Chem.* **29,** 1044-7 (1937).

♦

Colored Insecticides

The green peach aphid is attracted to potato plants sprayed with Bordeaux mixture, a result of the increased intensity of light reflected from the sprayed surfaces. Since the insects are attracted according to the inverse-square law of light intensities, it is probable that intensity is the primary factor in the response. Infestations of the cabbage aphid on cabbage were reduced by the application of a black dust. The use of dyed materials to reduce the intensity of reflected light from dusted or sprayed surfaces of crops infested with aphids is suggested. Joseph B. Moore. *J. Econ. Entomol.* **30,** 305-9 (1937).

♦

Relative Toxicity of Cresols

A study was made of the toxicities of the 3 cresols against *Carassius auratus* with respect to concentration and survival time at 27° C. The type of toxic action of the cresols is similar to that of phenol. According to the minimum product of concentration and survival time, which measures toxicity at its range of most powerful action, *m-cresol* is slightly less toxic than phenol, *o*-cresol is 1/5 more toxic, and *p*-cresol is nearly twice as toxic. The phenolic compounds differ mainly in the acceleration of their toxic action with increase in concentration. Four methods of comparison in the range of greatest acceleration show that the compounds bear the following ratios of toxicity: *m*-cresol 1.0, phenol 1.1, *o*-cresol 1.3 and *p*-cresol 2.0. If time is not considered and the compounds are compared according to concentrations necessary to kill under certain conditions, the values for the relative toxicities of the phenolic compounds change but little. W. A. Gersdorff. *J. Agr. Research* **54,** 469-78 (1937); through *Chem. Abs.*

♦

Pyrethrum Flowers

Pyrethrum, by the methods so far employed, was found to contain no volatile active constituent. Pyrethrum flowers are toxic to both warm-blooded and cold-blooded animals, depending on the dosage and route of administration. Cold-blooded animals (frogs and insects) are much more susceptible to the action of pyrethrum than are warm-blooded animals (rats and cats). Skeltal muscle and the motor nerve supplying this type of muscle are not affected by the flowers. The principal site of action is the spinal cord; the character of the action may be described as a transitory stimulation followed by a depression and paralysis of a distinctly ascending type, ultimately reaching the medullary centers. Two new biological methods of assay were developed but results with them do not always agree with those from chemical assay. Harry Rosen and Marvin R. Thompson. *J. Am. Pharm. Assoc.* **26,** 631-42 (1937).

♦

Action of Pyrethrum and Derris

The pyrethrins are nerve poisons. The toxic constituents of derris root, especially rotenone, act as poisons to the cellular respiratory system. The susceptibility of various insects to the poisons is largely dependent on the permeability of the cuticle and the nature of the nerve system. There also appears to be some relationship between the pH of the body fluids and susceptibility to the poisons. Heinz Klinger. *Arb. physiol. angew. Entomol. Berlin-Dahlem* **3,** 49-69, 115-51; through Chem. Abs.

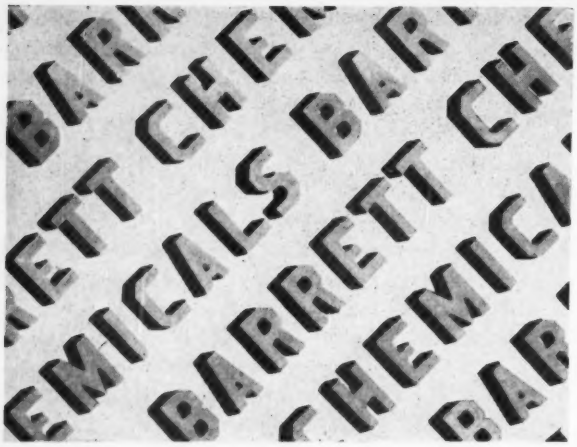
♦

Essential Oil Germicides

Essential oils which have antiseptic properties, can be made suitable for use by the general public in the same way as pine oil, by emulsifying with soap or by the use of sulfonated oils. Eucalyptus oil disinfectant is prepared according to the following formulas:

	Lbs.
1. Eucalyptus Phell	100
W. W. Rosin	100
Caustic soda solution, 25%	50
Denatured alcohol	20
Water	150
	Lbs.
2. Eucalyptus Dives	250
Commercial oleic acid	105
Water	300
Caustic soda solution, 25%	60
Denatured alcohol	60

These products are nonpoisonous and noncorrosive. They are prepared by dissolving the rosin or oleic acid in the caustic solution, diluting with half the water content, cooling, stirring in the eucalyptus oil, and adding the alcohol.



CRESOL U.S.P.

Cresol Compound prepared from Barrett Standard Cresol U.S.P. contains less than 5% Phenol and falls well within the limitations of the Federal Caustic Poisons Act.

TAR ACID OILS, 10%-75%

Carefully blended oils ranging in tar acid content from 10% to 75% for manufacture of disinfectants.

CRESYLIC ACIDS

Grades of various distillation ranges depending upon requirements.

PHENOL U.S.P.

A pure white crystalline product, 40° C. minimum melting point.

HYDROCARBON OIL

A neutral coal-tar oil for high coefficient disinfectants.

SOLVENT NAPHTHA

Approximately 25° C. boiling range.

DIP OIL

A coal-tar base for animal dips.

THE BARRETT COMPANY
40 Rector Street **New York, N. Y.**

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Barrett Specification Roofs . . . Barrett Shingles and Roll Roofings . . . Protective Coal-tar Paints and Damp-proofing Materials . . . Tarvia and Tarvia-lithic, for road construction . . . Creosote Oil . . . Pipe Line Coatings . . . domestic Sulphate of Ammonia and Arcadian, the American Nitrate of Soda.

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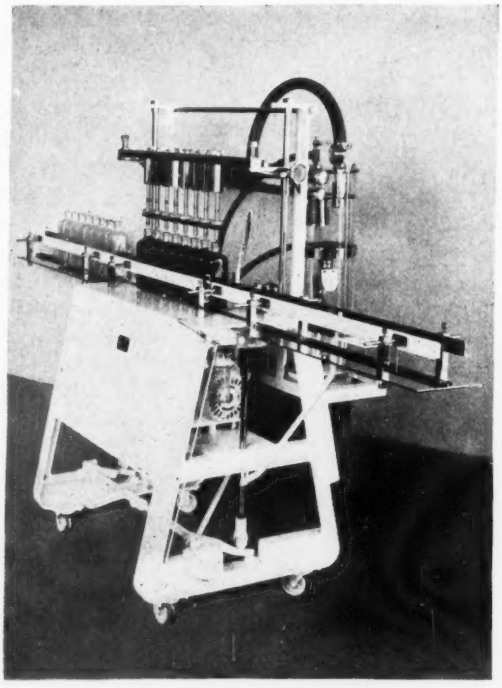

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● Here is the ideal vacuum bottle filler for handling the liquids mentioned above, as well as other sanitary and chemical specialties. It is an especially good unit for the average sanitary products plant because it can easily be adjusted to fill a wide range of sizes. Special points of superiority include a continuous vacuum, fully automatic overflow, rejection of defective bottles and adjustable spouts. We also make a portable vaccum bottle filler, as well as a table vacuum filler.

ERTEL CAPPER

● The Ertel capper, complete with one chuck, sells for only $9.75 F. O. B. New York City and with any of the machines described above will finish your liquid packaging job in a satisfactory manner. Performs at no operating cost and with a minimum of physical effort. Various sized interchangeable chucks are in stock. Can handle caps up to 42 millimeters.

ERTEL ENGINEERING CORPORATION

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An example of thyme oil disinfectant is as follows:

	Parts
Thymol	3
Oil of thyme	1½
Origanum	1
Terpineol	5
Sulfonated castor oil	40
Water	50

This should give a perfect emulsion in water, which would be truly antiseptic and nonpoisonous. C. K. Allerton. *Soap, Perfumery & Cosmetics*, **10**, 744-6 (1937).

Pyrethrum and Derris Tested

In numerous tests pyrethrum dust was effective against more insect forms than was derris dust, but derris was effective against several species against which pyrethrum was not satisfactory. The toxicity of derris was considerably more persistent than that of pyrethrum. The more concentrated the dust and the heavier the dust film, the longer was the persistence of the toxicities of both dusts. In both cases the persistence of toxicity decreased with increase in temperature and was shorter in sunlight than in shade. Under the same conditions the persistence of toxicity was approximately the same for both dusts.

Mixtures of hydrated lime and pyrethrum had equal toxicity to those of gypsum and pyrethrum when used fresh and after storage in the dark for 16 days. After 68 days, mixtures with hydrated lime, while still highly toxic, were decidedly less toxic than corresponding mixtures with gypsum. Mixtures of derris and hydrated lime did not show deterioration in toxic properties when compared with mixtures of derris and gypsum over a 3-month period. A. Kelsall and H. T. Stultz. 67th Ann. Rept. *Entomol Soc. Ontario*, 20-9; through *Chem. Abs.*

Sulfonium Disinfectants

Disinfectant and fungicidal preparations consist of a mixture of two or more sulfonium compounds, those containing radicals derived from fatty acids or alcohols of 10-20 carbon atoms being particularly suitable. Chemische Fabrik von Heyden A. G. British Patent No. 464,330.

National Association of Insecticide *and* Disinfectant Manufacturers

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President.....**W. B. Eddy**
Rochester Germicide Co., Rochester, N. Y.
1st Vice President.....**Vacant**
2nd Vice-President.....**J. L. Brenn**
Huntington Laboratories, Inc., Huntington, Ind.
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MEMBERSHIP

Active Membership

All reputable persons, firms or corporations engaged in or allied with the business of manufacturing or distributing disinfectants, antiseptics, germicides, household insecticides, sanitary supplies, and/or articles coming within the purview of the Federal Insecticide Act of 1910 shall be eligible for Active Membership in the manner prescribed in the By-Laws.

Associate Membership

All reputable persons, firms or corporations engaged in the manufacture or distribution of raw materials, containers, packaging machinery, spraying devices or other articles, or services, normally purchased by Active Members of the Association shall be eligible for Associate Membership, to have and enjoy all the privileges of Active Membership but without the right to vote or hold office.

For further details, communicate with

NATIONAL ASSOCIATION OF INSECTICIDE & DISINFECTANT MANUFACTURERS

John H. Wright, Secretary

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Makes the floor cleaning fast and easy. Only two operations. Spray it on—Mop it up.

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THE PATENTED SWEEPING COMPOUND WITH THE SISAL BASE

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Our preparations will help you increase your sales on SWEEPING COMPOUND.

SWEEPING COMPOUND M'N'F'R'S CO. OF N. Y. INC.
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NEWS.....

Victory Chemical Head Dies

Charles S. Daugherty, president of Victory Chemical Co., Philadelphia, died recently. His son, Clarence R. Daugherty, who has been associated with him in the business for over thirty years, will replace him as head of the concern. The firm specializes in the manufacture of "Quick Death" insecticide and disinfectant. They also manufacture cleaners, polishes and other sanitary products and chemical specialties.

New Quarters for AALCO

The offices of Aalco Chemical Co., soap and sanitary products manufacturer, St. Louis, formerly located at 4342 Manchester St., have been moved to 2430 Cass Ave., St Louis.

Require Insecticide Coloring

C. L. Clay, chemist for the Louisiana State Board of Health, has just issued a new warning to insecticide manufacturers and dealers that strict enforcement may be expected of the Louisiana statute requiring coloring of poisonous insecticides. Several recent cases of poisoning, resulting from confusing uncolored calcium arsenate with flour, are responsible for this decision.

Introduce "Vol" Deodorant

Volcocite Corp., Ardmore, Pa., is conducting a house to house distribution program of 500,000 coupons for "Vol," a bathroom deodorant and detergent. The distribution is under the direction of Park Distributing Co., Philadelphia.

Corl Joins S. B. Penick

C. S. Corl, well known to the insecticide trade as co-author with C. B. Gnadinger of a number of important contributions to the literature on pyrethrum, has just joined the technical and production staff of S. B. Penick & Co., New York. Mr. Corl has wide experience in the manufacture of pyrethrum extract and will assist in the expansion of the facilities of S. B. Penick & Co. in this particular field. He will also be available for assistance to customers in a technical capacity. Mr. Corl has been plant manager of Dr. Ward Medical Co., Winona, Minn., for the past year and while there supervised their insecticide production. Prior to that he had been connected with McLaughlin Gormley King Co., Minneapolis, for seven years. Mr. Corl is a graduate of the University of Minnesota School of Chemistry, 1921.

Cady S. Corl

Drug Section Meets Nov. 16

The forty-seventh annual meeting and election of officers of the Drug, Chemical and Allied Trades section of the New York Board of Trade, will be held at the Hotel Pennsylvania, New York, November 16. Dinner at 6:30 p.m. will precede the business meeting.

Introduce New Antiseptic

Alba Pharmaceutical Co., New York, has just introduced a new type antiseptic under the name "Zephiran". It is marketed in a clear, slightly yellowish aqueous solution, and is recommended for sterilizing instruments, irrigation of wounds, etc. It is said to be composed of high molecular weight alkyl-dimenthyl-benzyl-ammonium chlorides.

Zonite Offers "Zona Cream"

Zonite Products Corp., New Brunswick, N. J., has just introduced a new product under the name of "Zona Cream" which is openly advertised as a contraceptive. It is stated that this is the first such product so labeled. Advertisements feature the statement that it is sold on physicians' prescriptions only. The new product will be advertised solely to the medical profession and in drug journals.

Elko Completing Plant

Elko Chemical Co., recently organized by Lee A. Kolker to manufacture paradichlorbenzene, orthodichlorbenzene, monochlorbenzene, and muriatic acid, will shortly complete its new plant at Newark, N. J. Arrangements have been made with Philipp Brothers, New York, to handle exclusive sales of the Elko products. Mr. Kolker who heads the new organization was formerly connected with Mathieson Alkali Works, New York.

Seek Insecticide Agency

A concern in Buenos Aires, Argentina, is interested in securing an agency for sale of agricultural insecticides and fungicides of American manufacture. Interested parties may communicate through the U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C., mentioning inquiry No. 4327.

Windsor Wax CIO Organized

Windsor Wax Co., New York, operators of a wax manufacturing plant at Hoboken, N. J., have signed a contract with the Chemical Workers Union, a C.I.O. affiliate. Wages were advanced slightly but hours were unaffected. The firm has always allowed a vacation period for plant employees so this feature of some labor discussions was no problem.

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STEEL PAILS *and* DRUMS

ATTRACTIVE APPEARANCE that gets favorable attention and emphasizes the quality of your product . . .

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Give your products the advantages of these perfect containers . . . Request catalog and prices now!

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ROACH & INSECT POWDER
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DISINFECTANTS—INSECTICIDES
AND OTHER SANITARY SPECIALTIES

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FORMALDEHYDE SPRAY
THE
PERFECT AIR
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Write for Samples, Prices and Full Information.

THE CHEMICAL SUPPLY CO. 2450 CANAL ROAD
CLEVELAND, OHIO

Issues Warning on Fly Sprays

Dr. McDonnell of Food & Drug Administration says one pound pyrethrum per gallon expected — Says manufacturers are meeting price and not quality standards — Holds Official Control Insecticide too weak for practical use—States poor products hurt all fly sprays—Products reported picked up by F. D. A.

DR. C. C. McDONNELL, Chief of the Insecticide Division of the Food & Drug Administration, Washington, has issued a very thinly veiled warning against low grade fly sprays and has outlined what he believes should be the minimum standard strength for a liquid insecticide. Already, it has been reported in the industry, products of some manufacturers have been picked up and they have been cited by the F.D.A. on the basis of the alleged low kill of their liquid insecticides. The statement from Dr. McDonnell in the form of a letter to John H. Wright, secretary of the National Association of Insecticide & Disinfectant Manufacturers, holds that a reduction in toxic ingredients in order to meet price competition, accounts for the low grade products on the market. He states that the minimum strength which a user is justified in expecting in a liquid spray is the equal of one pound of pyrethrum per gallon of petroleum.

The statement of Dr. McDonnell does not state specifically that his department intends to undertake a rigid enforcement of the Insecticide Act against low grade fly sprays, but such appears to be quite clearly intimated. He points out that any label which carries a statement which is false or misleading in any particlar violates the act, and then goes on to state that the words "fly spray" on a label gives a purchaser the right to expect that such a product will be effective at least against flies. The natural conclusion is that if it does not kill flies effectively, it can be held to be a violation. But where is the line between effective and ineffective?

For several years past, there have been numerous complaints in the trade and from certain large consumers against some of the low-kill insecticides on the market, but it was generally believed that the Insecticide Act of 1910 could not be made to apply owing to the uncertainties which have surrounded the biological testing procedure. The recent statement by Dr. McDonnell, and the reported picking up of certain fly sprays by the F.D.A. are the first indications that the F.D.A. intends to apply the Insecticide Act in this direction.

Following is the statement of Dr. McDonnell:

"The Insecticide Act provides that a product subject to its provisions shall not bear on the label any statement, design or device which is false or misleading in any particular. When a product is labeled 'Fly Spray,' the purchaser will naturally expect it to be at least as effective against flies as the fly sprays commonly recommended. The fly spray most frequently recommended and that to which reference is made in the trade notice, 'Labeling of Mineral Oil-Pyrethrum Household Fly Sprays' is equivalent in strength to one containing the active ingredients from at least one pound of a good grade of pyrethrum powder in each gallon of mineral oil of suitable composition. It is our opinion that the purchaser of a fly spray is justified in expecting that the product will have at least this strength.

As stated in SOAP for January 1937, page 100, we do not use the Peet-Grady Method for evaluating fly sprays, but test them in a room of ordinary size under practical conditions of use. Under these conditions a fly spray such as described above would kill 65 per cent to 70 per cent of bred flies, or about 85 per cent of wild flies,—the latter usually being less resistant to the action of sprays. This product would be somewhat stronger than your association's control sample, which we believe to be a little too weak for practical use as a fly spray.

Our investigations indicate that some manufacturers are making their fly sprays to conform to a price schedule rather than with due regard to their effectiveness. In order to put out a cheaper article to meet competition, they will reduce the amount of pyrethrum or organic thiocyanates, the most expensive constituent, to very small proportions. Unless steps are taken to overcome this condition the market for all fly sprays will be adversely affected."

———•———

A process that sterilizes wool fabrics without damaging the fibers has been developed recently by three workers in the U. S. Department of Agriculture. Although this method has as yet been tried only under laboratory conditions on undyed blanket fabrics, it is believed to have practical possibilities for commercial use. The next step will be to test it out in dry-cleaning and other industrial plants. Heretofore any process that killed the micro-organisms in the wool did considerable damage to the material itself. The Department's research workers found that by heating the wool material in xylene, they could sterilize the wool and leave it essentially unchanged otherwise. They found Stoddard solvent and tetrachlorethylene were also successful when used in place of xylene.

Ruth Elmquist and James Kettering of the Bureau of Home Economics carried out the research for this process in collaboration with Harry Humfeld of the Bureau of Plant Industry. Application has been made for a public service patent. They worked with undyed, laundered, wool blanket material, one of the most difficult wool fabrics to sterilize, taking as a representative micro-organism *Bacillus mesentericus*, which is destructive to wool and very resistant to adverse conditions. Other methods of sterilization tested in the research proved to be unsatisfactory. Use of ultraviolet light, potassium permanganate, iodine, alcohols, glyc-

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A NON-INFLAMMABLE CREAM METAL POLISH
That Won't Settle or Separate.
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erol, tribrombethanaphthol, tetrachloroethane and phenylphenates did not produce sterility. Formaldehyde and mercuric salts sterilized but left a residue in the wool. Intermittent steaming sterilized the material but injured the fabric.

Penick Buys Munick

S. B. Penick & Co., New York, have recently acquired by purchase the complete assets and business of Murray & Nickell Mfg. Co., Chicago. The purchase is particularly timely for the Penick organization as the Murray & Nickell stocks of insecticidal raw materials can be used to replenish the Penick stocks which were destroyed in a recent fire at their Weehawken plant. The activities of Murray & Nickell have been merged with the Penick Chicago office.

Parker Exterminators' Sec'y

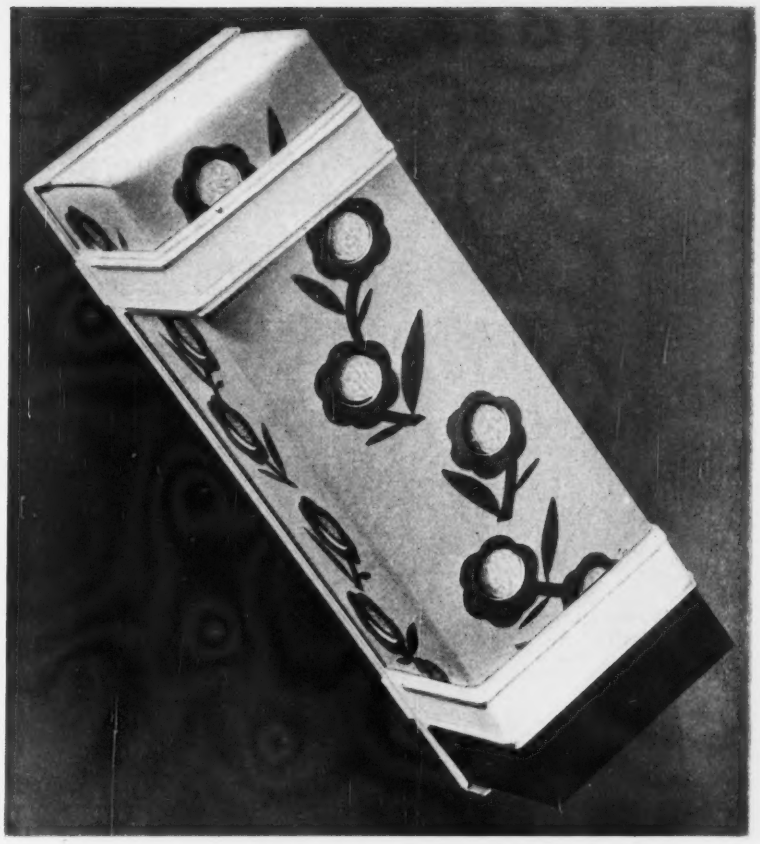
W. J. Parker has recently been named secretary-treasurer of the Associated Exterminators & Fumigators of New York, assuming his new duties October 1. Mr. Parker who heads W. J. Parker, Inc., 7 East 44th St., New York, has specialized in trade association work for over sixteen years, and his organization directs the affairs of numerous trade association groups in various fields. His staff numbers over forty. His connection with the Associated Exterminators & Fumigators will mark the inauguration of a more active program.

Crop Dusting Firm Suspends

Airplane Crop Dusting & Seeding Co., Beaverton, Oregon, has recently ceased operations. Edgar L. Ludwick was manager of the concern.

Condemn Stewart's Antiseptic

The U. S. Food and Drug Administration has recently condemned and destroyed 536 bottles of "Dr. Mary E. Stewart's Antiseptic Powder" shipped by American Pharmaceutical Co., New York. The administration charge, which went uncontested, was that the product fell below the antiseptic strength claimed and bore false labeling and fraudulent curative and therapeutic claims.



A new device for wall deodorant blocks recently patented by Fuld Brothers, Baltimore, manufacturers of sanitary products for the jobbing trade. The metal back with the two brackets screws on the wall and cannot be removed unless the block is out. The latter is packed in various types of colored and lacquered heavy cardboard and slips in from the bottom. After the container and block have been inserted a clip is used at the bottom making it impossible to get the package out until the block has evaporated, thus eliminating losses by theft.

Emulsion Fly Spray

Fly-spray compositions consist of kerosene solutions or aqueous emulsions of decyl thiocyanate or alkyl thiocyanate. An example is a 3 per cent solution of decyl thiocyanate in a specified kerosene fraction. Grasselli Chemical Co. British Patent No. 464,776.

Stoddard Solvent Standard

A revised standard for Stoddard Solvent has recently been approved by the National Bureau of Standards and released by the U. S. Government Printing Office under the designation CS3 - 38, superseding CS3-28. Copies of the revised text may be obtained at 5c each from the Superintendent of Documents, Washington, D. C.

Non-skid Floor Wax

A non-slippery, self-polishing floor wax consists of an emulsion of hard floor wax in water, an aqueous dispersion of vulcanized rubber, and a water-soluble emulsifying agent such as a special soap. The vulcanized rubber comprises 5-30 per cent of the solid content of the suspension. The remainder of the solids consists of the wax and emulsifying agent. Bernard L. Kline, U. S. Patent No. 2,088,795.

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65%

Boiled Down
COTTON SEED
SOAP

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Valencia Pumice
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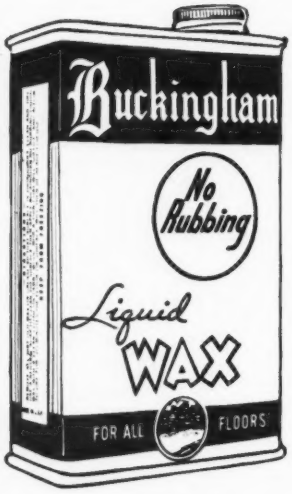

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Insecticide, Disinfectant Makers Meet in New York, December 6-7

W. B. Eddy
Association President

J. L. Brenn
1st Vice-President

H. W. Hamilton
Chairman Program Committee

MEMBERS of the National Association of Insecticide and Disinfectant Manufacturers will return to New York for their annual meeting this year, December 6 and 7,—the Hotel Biltmore having been selected as the scene of the association's 24th annual meeting. There are a number of important problems of the industry which will come up for discussion at this meeting, among these being the campaign just inaugurated by the U. S. Food & Drug Administration to proceed against manufacturers of low-grade fly sprays and the labeling situation in the State of California.

The official opening of the meeting will be preceded by a meeting of the Board of Governors the afternoon of Sunday, December 5, at which the final preparations will be made for the two-day session. Registration will start at 9:00 a.m. the following morning. The meeting is scheduled to get under way at 10:00 a.m., with W. B. Eddy, Rochester Germicide Co., association president, in the chair. Much of the first morning session will be taken up with reports of officers and committee chairmen, and the appointment of resolutions and nominating committees.

Group luncheons will be held each day, with the annual informal banquet scheduled for the evening of Tuesday, December 7. No special group plans have been made for Monday evening, December 6, this evening being left open. General arrangements for the meeting are in charge of John H. Wright, association secretary. John Powell, John Powell & Co., New York, heads the arrangements committee, H. W. Hamilton of White Tar Company of N. J., Kearny, N. J., the program committee, and L. J. La Cava of Continental Can Co., New York, is serving as chairman of the entertainment committee. Reservations for the meeting should be addressed to the office of the secretary, John H. Wright, 122 East 42nd St., New York, or may be sent direct to the hotel.

A special feature of the meeting will be a trip to the Chemical Exposition which will open at the Grand Central Palace, New York, December 6, continuing all through that week. Arrangements have been made for association members to attend in a group, and time will be left open on the program for this trip. Tickets for all will be provided by the committee.

The full program for the association meeting is not yet in final form, but Mr. Hamilton has announced that the following speakers will address various sessions: Lee Bristol, president of Bristol-Myers Co., New York, who will speak on "Control Advertising as Applied to Insecticides"; Prof. W. C. MacTavish of the Chemistry Department of New York University, who will speak on "Recent Chemical Developments of Interest to the Industry;" and W. D. Lewis, chief engineer of the National Hotel Management Corp., who will speak on "Hotel Sanitation and Insect Control." Among the guests at the meeting will be Dr. E. L. Griffin of the Food & Drug Administration, U. S. Department of Agriculture, Washington.

Among the committee reports scheduled to be heard are the following:

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CAMDEN, N.J. BOSTON, MASS.
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A new floor wax
for the janitor supply
and jobbing trades which is
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ZIP-ON WAX

Dries very bright and becomes water resistant as soon as dry. Wax content guaranteed 100% Carnauba. Supplied in bulk, or with your label in any size container.

Shawmut Specialty Co.
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Ask about our new PINE NEEDLE SCRUB SOAP. Something different and better.

END BLIND SPOT
SPRAYING WITH

LOWELL NU-ACTION SPRAYERS

The blind spot in sprayers is that area between the poorly atomized drops without killing power.

The LOWELL NU-ACTION SPRAYERS send a high powered finely atomized mist that produces a compact spray of uniform killing power. The blind spot is eliminated.

Sprayer experts and just ordinary folks are more than enthusiastic over these new sprayers. Send for further details.

The diagram shows poorly atomized spray, notice the wasted blind spots—and compare with solid atomized mist in NU-ACTION sprayers!

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North Pier Terminal, Opp. Navy Pier, Chicago
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Always Uniform

Always light in color . . . always sweet in odor . . . always satin-smooth in texture. In ALL WAYS Nimco Lanolin meets every requirement for a better Lanolin. Write for testing sample today.

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Refined
FROM SELECTED WOOL GREASES
NIMCO
LANOLIN
ANHYDROUS and HYDROUS, U. S. P.

Sanitary Products Committee—C. L. Weirich of C. B. Dolge Co., Westport, Conn., will present recommendations on proposed specifications for sanitary supplies.

Antiseptic Committee—Report will be offered by Dr. G. F. Reddish, Lambert Pharmacal Co., St. Louis.

Insecticide Specifications and Standards—Dr. Alfred Weed of John Powell & Co., will report on standards and H. A. Thomas of Shell Petroleum Co. on specifications.

Disinfectant Specifications and Standards—J. L. Brenn, Huntington Laboratories, Huntington, Ind., will report.

Disinfectant Literature and Patents—Report by Dr. E. Klarmann, Lehn & Fink, Inc., Bloomfield, N. J.

Insecticide Literature and Patents—Report by John Curlett, McCormick & Co., Baltimore.

Disinfectant Testing—Dr. B. G. Philbrick, Skinner & Sherman, Boston, will deliver a report on methods of testing disinfectants.

Packaging Show in Chicago

The eighth annual packaging exposition sponsored by the American Management Association will be held at the Palmer House, Chicago, March 22 through 25. In conjunction with the exposition the American Management Association will hold its eighth annual conference on packaging, packing, and shipping. A feature of the exposition, as in previous years, will be an exhibition of all the entries in competition for the Irwin D. Wolf awards.

Memphis, Tenn., October 27—H. K. Stockel of Tornado Manufacturing Co., Columbus, O., was elected president of the National Pest Control Association today. Newly elected vice presidents are as follows: Walter S. McCloud, W. B McCloud & Co, Chicago; Otto Oorkin, Orkin Exterminating Co., Atlanta; Irving Sameth, Sameth Exterminating Co., New York; L. A. McKenna, A. C. Exterminating Co., Cleveland, O., and G. R. Lovejoy, Western Exterminating Co., Los Angeles. Secretary, William O. Buettner, Oscar G. Buettner & Son, Brooklyn. Treasurer, A. M. Akers, Rose Co., Cleveland, O.

Pest Control Association Elects H. K. Steckel President

THE fifth annual convention of the National Pest Control Association, formerly the National Association of Exterminators and Fumigators, opened at the Hotel Peabody, Memphis, October 25, with over 300 members of the industry and the supply trades in attendance. An important feature of the program was the clinics on termites, rats, ants, silverfish and moths, which offered much of practical value to those exterminators with specific problems in any of these different fields. Experts in the various lines were on hand to give advice and instruction, as well as to answer questions.

Another feature of the meeting was a series of exhibits at which members of the supply trades showed the latest in devices and materials in use by the exterminating and fumigating industry. The evening of Monday, October 25, was declared "Products Night," with William Buettner of Oscar G. Buettner & Sons, Brooklyn, association secretary, explaining important facts and features about the various booths and the products and equipment displayed.

The convention was called to order Monday morning, October 25, by Harry J. Hammond, general chairman of the convention committee. Bartlett W. Eldredge, Waltham Chemical Co., Waltham, Mass., president of the association, presided at the business sessions. Among the leading speakers to address the meeting were Dr. Thomas E. Snyder, U. S. Department of Agriculture, who spoke on "The Termite Problem and Recent Research"; Dr. L. M. Graves, Memphis Health Department, who spoke on "Sanitary Measures from the Pest Control View Point"; and Lee A. Strong, Chief of the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, who spoke on "Cooperation of the Bureau of Entomology with Pest Control Operators."

In his address Mr. Strong urged pest control operators to extend their activities into the control of insect pests in the argicultural field, and not to confine their activities exclusively to household insect pests. He urged that the industry would benefit from a licensing system for its operators, which would stop present unfair competition by unscrupulous operators with legitimate firms. Speaking of the bureau's program of research, he referred specifically to the present attempts to develop new treatments for building materials to make them termite proof.

"Unscrupulous operators have been particularly active in this field," according to Mr. Strong. "They have frightened home owners into believing that swarms of harmless winged ants were termites. They have sold alleged cures for termites that were effective only temporarily, if at all. The best interests of pest control operators," Mr. Strong said, "demand that they face this situation by giving more conscientious operation or that they provide better supervision of the jobs, or that they unite to drive the unscrupulous operator from the field.

"The Bureau of Entomology and Plant Quarantine," Mr. Strong continued, "is cooperating with state agencies and industrial concerns in developing methods of treating cereal products to prevent infestation either during manufacture or in storage, thus eliminating the possibility of later infestation in homes, restaurants, and hospitals. It is doing similar work to prevent the infestation of dried fruits. It is seeking methods of treating fabrics to prevent their destruction by insects, with the idea that this treatment will be ap-

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plied in the manufacture of materials subject to attack by the clothes moth and carpet beetle."

John C. Wolke Dies

John C. Wolke, executive sales manager of L. Sonneborn Sons, Inc., New York, and an internation-

John C. Wolke

ally known figure in the petroleum industry, died at his home in Upper Montclair, N. J., October 18. Mr. Wolke started his career as an office boy for Standard Oil Co. of N. J. in 1906. His rise in that concern was rapid and he was a well-known figure in the petroleum industry when in February, 1932, he joined L. Sonneborn Sons. He had been with them since that time. Mr. Wolke was still a young man at the time of his death, being only 45 years old and at the height of his career. He is survived by his widow, Mae E. Eysold Wolke, his three sons and two daughters, as well as his parents and a brother.

Limit "Slick" Cleaner Claims

Emsee Manufacturing Co., Monroe, Mich., has just signed a stipulation with the U. S. Federal Trade Commission agreeing to discontinue representing that "Slick Universal Cleaner" cleans everything from dishes to rugs, walls or automobiles, and that laundry managers have found that one pound of the product equals five pounds of soap and building managers have adopted it for all building cleaning requirements. The company will also stop representing that its product is beneficial for washing clothes, unless this claim is limited to other than woolen and silk clothes and unless the assertion is qualified by a warning that it may affect the color of some textiles. The company also will refrain from advertising that the product dissolves dirt, neutralizes grease and kills germs.

Janitor Supply Firm

United Supply Co., 7 East Michigan Street, Duluth, Minn., has been formed to handle janitor supplies and industrial chemicals.

The company is interested in hearing from manufacturers who want representation in that territory.

Benz Products Moves

Benz Products Co., Milwaukee, soap and sanitary products firm, has moved recently from 5151 No. 32nd St., to 4504 W. Fond du Lac Ave.

Move Higgins' Offices

The new offices of Higgins Co., soap and sanitary products manufacturer, formerly at 222 N. W. 22nd Terrace, are now located at 2160 N. W. First Ave., Miami, Fla.

New Bulletins

(*From Page 73*)

nior board, junior board, factory board, and sales board. General employment policies are explained and reference is also made to the company's program of employee security. Copies may be obtained on request.

410—Cleaning Survey

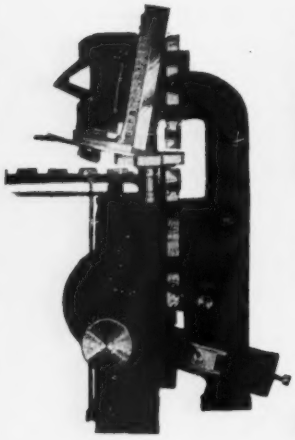
McGraw-Hill Publishing Co., New York, has just brought out a survey dealing with the purchase of cleaning materials by industrial users. According to this survey, it is indicated that industry buys about one hundred million dollars worth of cleaning materials annually. It is stated that quality of the product is the most important consideration in buying. The average plant, according to the survey, considers only a very limited number of cleaning materials in making its selection. This is attributed to lack of advertising by the average cleaning material house. Copies of the complete report are available.

411—Odor Disseminator

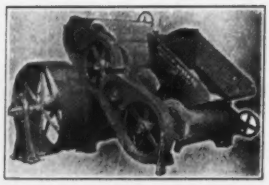
Ira E. Baker Co., 4400 Perkins Ave., Cleveland, has just issued a new folder describing the "Fragrant-Aire" electric fan and odor disseminator. Copies available.

An interesting window display of sprayers was used recently by Price-Rite Hardware Co., Lowell, Mich., hardware and janitor supply firm. The dealer reports increased volume of sprayer sales resulting from the display.

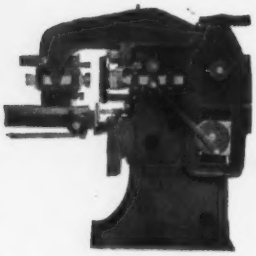
Special Offerings of SOAP MACHINERY *Completely Rebuilt!*



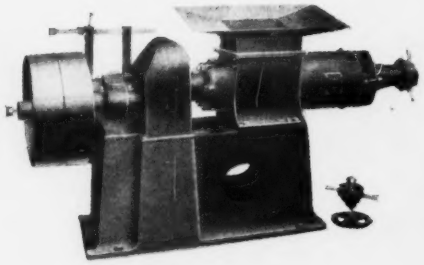
Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.



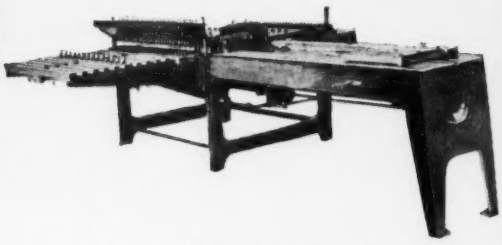
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables

NEW CRUTCHERS!

This Newman brand new, all steel steam jacketed soap crutcher. Will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap in addition to other new soap machinery such as frames, cutting tables, etc. Send for complete list.

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

- H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H.A. Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

Send us a list of your surplus equipment— we buy separate units or complete plants.

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